DR. HUNTER's

INTRODUCTORY LECTURES, &c.

BRITISH MUSEUM

Dr. HUNTER's PLATES of the GRAVID UTERUS.

The few Copies that remain of this ſuperb Work, originally ſold for Six Guineas, may now be had for Three Guineas and a Half, of

J. JOHNSON, in St. Paul's Church-Yard.

ALSO

Dr. HUNTER's MEDICAL COMMENTARIES,

In Quarto, Price Six Shillings, in Boards.

TWO

INTRODUCTORY LECTURES,

DELIVERED BY

DR. WILLIAM HUNTER, K

TO HIS LAST COURSE OF

ANATOMICAL LECTURES,

AT HIS

THEATRE IN WINDMILL-STREET:

As they were left corrected for the PRESS by himſelf.

TO WHICH ARE ADDED,
Some PAPERS relating to DR. HUNTER's INTENDED
PLAN, for eſtabliſhing a MUSEUM in LONDON,

FOR THE IMPROVEMENT OF

ANATOMY, SURGERY, AND PHYSIC.

PRINTED BY ORDER OF THE TRUSTEES, FOR J. JOHNSON,
NO. 72, ST. PAUL's CHURCH-YARD, LONDON.
M.DCC.LXXXIV.

BRITISH MUSEUM

LECTURE I.

ANATOMY is the art of examining animal bodies by diſſection. It teaches the ſtructure and functions of thoſe bodies, and ſhews nearly on what life and health depend. When theſe are well underſtood, a great ſtep is made towards the knowledge and cure of diſeaſes.

The word Anatomy is originally Greek, ſignifying diſſection or cutting: but we are not to imagine from the etymology, that Anatomy means no more than the bare management of the knife, ſciſſars, or other cutting inſtruments, upon dead bodies. The ancients, indeed, meant little more by it; this being almoſt their only method of inveſtigation: but in our days, it is taken in a much more comprehenſive ſenſe. Thus injecting, macerating, corroding, boiling, diſtilling, in a word, every operation by which we endeavour to diſcover the ſtructure and uſe of any part of the body, is anatomical.

As every animal body is the ſubject of Anatomy, we divide it into the human and comparative. The firſt of theſe is confined to the human body, the laſt is extended to the whole animal creation. The human Anatomy is what we propoſe to explain: the comparative will only be introduced occaſionally, where it ſerves to illuſtrate the other, or to guide us in reaſoning from analogy. The ſtructure of ſome parts may be ſo delicate, or involved, in the human ſpecies, as to be undiſcoverable; yet in another ſpecies, the ſtructure of thoſe very parts may be apparent. Accordingly, many things have been firſt diſcovered in comparative Anatomy, and were afterwards found out in the human body. Even monſters, and all uncommon, and all diſeaſed animal productions, are uſeful in anatomical enquiries; as the mechaniſm, or texture, which is concealed in the ordinary faſhion of parts, may be obvious in a preternatural compoſition. And it may be ſaid, that nature, in thus varying and multiplying her productions, has hung out a train of lights that guide us through her labyrinth.

Anatomy, like moſt arts, has undergone many revolutions, having been in high credit in ſome ages and countries, and keenly purſued; and on the contrary, in others, it has been as much neglected or depreſſed. It would be prepoſterous to give a long detail of its hiſtory, in the beginning of a courſe of lectures, becauſe a beginner in this ſtudy, will hardly be able to remember by whom, and under what circumſtances this, or that diſcovery, or improvement, was made, when from his ignorance of the ſubject, he cannot be ſuppoſed to know, what ſuch diſcoveries really were. Wherefore, we ſhall reſerve moſt of the hiſtory, to be thrown in with the Anatomy, by ſaying ſomething of the principal improvers, and writers on the ſeveral parts, as we go on. At preſent we ſhall be ſatisfied with a general ſketch of its origin and progreſs.

The want of records, leaves us in the dark, with regard to the origin of this art; yet, it is reaſonable to conclude, that like moſt other arts, it had no preciſe beginning. The nature of the thing would not admit of its lying for a time altogether concealed, and of being ſuddenly brought to light, either by chance, or genius, or induſtry.

All the ſtudies and arts which are *neceſſary*, in human life, are ſo intereſting and obvious, that man in every ſituation, has always by inſtinct and common ſenſe turned his thoughts to them, and made ſome progreſs in the cultivation of them. To talk ſeriouſly of the invention of agriculture, building, or architecture, aſtronomy, navigation, mechanics, phyſic, ſurgery, or anatomy, by ſome particular man, or in one particular country, or at a time ſubſequent to ſome prior æra, would be to diſcover great ignorance of human nature. We might juſt as well ſuppoſe that, till a certain period of time, man was without inſtinctive appetites, and without obſervation and reflection; and that, in a happy hour, he found out the art of ſupporting life by taking food. All ſuch arts, in a leſs or more cultivated ſtate, were from the beginning, and ever muſt be found in all parts of the inhabited world.

The firſt men who lived, muſt have ſoon acquired ſome notions of the ſtructure of their own bodies, particularly of the external parts, and of ſome even of the internal, ſuch as bones, joints, and ſinews, which are expoſed to the examination of the ſenſes in living bodies.

This rude knowledge muſt have been gradually improved, by the accidents to which the body is expoſed, by the neceſſities of life, and by the various cuſtoms, ceremonies and ſuperſtitions of different nations. Thus, the obſervance of bodies killed by violence, attention to wounded men, and to many diſeaſes, the various ways of putting criminals to death,

the

the funeral ceremonies, and a variety of ſuch things, muſt have ſhewn men, every day, more and more of themſelves; eſpecially as curioſity and ſelf-love would urge them powerfully to obſervation and reflection.

The brute-creation having ſuch an affinity to man in outward form, motions, ſenſes, and ways of life; the generation of the ſpecies, and the effect of death upon the body, being obſerved to be ſo nearly the ſame in both, the concluſion was not only obvious, but unavoidable, that their bodies were formed nearly upon the ſame model. And the opportunities of examining the bodies of brutes, were ſo eaſily procured, indeed ſo neceſſarily occurred in the common buſineſs of life, that the huntſman in making uſe of his prey, the prieſt in ſacrificing, the augur in divination, and above all, the butcher, or thoſe who might out of curioſity attend upon his operations, muſt have been daily adding to the little ſtock of anatomical knowledge. Accordingly we find, in fact, that the South-ſea-iſlanders, who have been left to their own obſervation and reaſoning, without the aſſiſtance of letters, have yet a conſiderable ſhare of rude, or wild anatomical and phyſiological knowledge. When *Omai* was in this Muſeum, with Mr. Banks, though he could not explain himſelf intelligibly, we plainly ſaw that he knew the principal parts of the body, and ſomething likewiſe of their uſes; and manifeſted a great curioſity, or deſire of having the functions of the internal parts of the body explained to him; particularly the relative functions of the two ſexes, which, with him, ſeemed to be the moſt intereſting object of the human mind.

We may further imagine that the philoſophers of the moſt early ages, that is, the men of curioſity, obſervation, experience, and reflection, could not overlook an inſtance of natural organization, which was ſo intereſting, and at the ſame time ſo wonderful; more eſpecially ſuch of them as applied to the ſtudy and cure of diſeaſes. We know that phyſic was a branch of philoſophy till the age of Hippocrates.

Thus our art muſt have been circumſtanced in its beginning. We ſhall next ſee from the teſtimony of hiſtorians and other writers, how it actually appeared as an art, from the time that writing was introduced among men; how it was improved, and conveyed down to us, through a long ſeries of ages.

From all that is known of the Chineſe hiſtory, there is no reaſon to imagine that any great event had ever happened, to overwhelm the inhabitants with ignorance and barbarity, after they had been enlightened with ſcience. And therefore, from the preſent ſtate of that country, even after ſome intercourſe with Europeans for two hundred years, we may conclude, that they never went very far into any branch of philoſophy. In Anatomy and phyſic, they ſeem to be *two* or *three* thouſand years behind us. Their anatomical figures, as we ſee in Cleyer, and in a collection in my library, are as rude, as what we might ſuppoſe any common butcher would expreſs by a drawing. And a great part of their phyſic ſeems to be an undigeſted ſyſtem of credulity in the virtues of plants, without any ſenſible diſtinction of diſeaſes. I have lately ſeen a ſplendid book of the Chineſe plants that are moſt famous for medicinal virtues, which was ſent over, as a valuable preſent, to one of our Eaſt-India Directors. The plants are delicately drawn, and pencilled in natural colours. The names, the uſual places of growth and culture, and the virtues in the cure of diſeaſes, are written under each plant, in Chineſe characters, and in Engliſh. Moſt of the plants are directed to be given in the form of tea, or infuſion. *One* is ſaid to be good for *inward* diſorders, *another* for inward ſwellings; *one* for *internal* bruiſes, another for bruiſes in the limbs, and outſide of the body; *one* is good for the eyes, another for deafneſs, another for complaints in the liver; *one* is good for *fat* people, another for thoſe who are *thin*; and, there is a very curious plant indeed, if the tranſlator has done juſtice to the original, it is good for people who are fleſhy on one ſide and lean on the other. Probably the Chineſe expreſſion meant the Hemiplegia, or palſy, which affects one half of the body, while the other half remains in a healthful and vigorous ſtate; yet admitting this ſuppoſition, and admitting likewiſe that the author might be a good botaniſt and ingenious artiſt, without being much ſkilled in phyſic, his manner of treating the ſubject puts us very much in mind of John Gaddeſden's notions about diſeaſes and cures, in the barbarous times, 1320, of Edward the ſecond, which are put into ſo ridiculous a light by Dr. Freind, in his hiſtory of phyſic.

Civilization and improvements of every kind, would naturally begin in fertile countries and healthful climates, where there would be leiſure for reflection, and an appetite for amuſement. It ſeems now to be clearly made out, that *writing*, and many other uſeful and ornamental inventions and arts were cultivated in the eaſtern parts of Aſia, long before the earlieſt times, that are treated of by the Greek, or other European writers; and that the arts and learning of thoſe eaſtern people, were, in ſubſequent times, gradually communicated to adjacent countries, eſpecially by the medium of traffic. In that way ſcience ſeems to have travelled over our hemiſphere, from the Eaſt, through Perſia, Medea, Chaldæa, Phœnicia, Ægypt, Æthiopia, Greece, Italy, and the whole Roman empire. And, within leſs than 300 years ago, European ſcience made a puſh weſtwards, exceeding every thing that has been recorded in the annals of time; it dared to go in ſearch of another hemiſphere, found it, and took poſſeſſion of the whole. And it muſt be comfortable to all men of liberal minds, to think, that from the univerſality of the preſent empire of ſcience, we might even flatter ourſelves with ſaying, of *Engliſh ſcience, arts, and language*, hardly any event can now overturn it, till the final cataſtrophe comes round.

The cuſtoms, ſuperſtitions, and climate of eaſtern countries, appear to have been as unfavourable to practical Anatomy, as they were inviting to the ſtudy of aſtronomy, geometry, poetry, and all the ſofter arts of peace.

With regard to aſtronomy, my excellent friend, Mr. Secretary Wood, as well as other travellers, informed me, that in Syria, and in the adjacent eaſtern countries, the air is ſo dry, and the ſky ſo tranſparent and ſerene, that, for the greateſt part of the year, the people ſleep on the top of their houſes, having nothing interpoſed between them and the firmament, which, from the purity of their atmoſphere, is beſpangled with ſtars, of brighter luſtre than we can well conceive, from what we are accuſtomed to ſee in this country.

Under ſuch favourable circumſtances for aſtronomical obſervations, the inhabitants muſt have made conſiderable advances in aſtronomy, at a very early period. The fixt ſtars would be obſerved to keep a ſteady, unchangeable ſituation with reſpect to each other; and to have a regular diurnal motion with reſpect to this earth: the moon and other planets, would be diſtinguiſhed from the fixed ſtars, by the changes in their ſituation with reſpect to one another. All the ſleepleſs hours of all the inhabitants, would be, of courſe, beſtowed on the ſpangled firmament: ſo that aſtronomy muſt have been gradually improved, from the firſt time of thoſe countries being inhabited.

It is juſt as natural to ſuppoſe, that the variety of theſe heavenly lights, would tempt men to diſtinguiſh them into claſſes, and try to aſcertain their number, as well as to give diſtinguiſhing names both to the claſſes and to the individuals. Arithmetic would, of courſe, likewiſe become a nocturnal employment with moſt of the inhabitants; and they would be ſtriving who could count the greateſt number of ſtars.

Mr. Wood obſerved further, that theſe peculiarities of eaſtern ſkies, convinced him of the true reaſon why the people of the Eaſt, have been ſo conſtantly prone to worſhip the hoſts of heaven. He ſaid he found himſelf, in the night, ſo ſtruck with the beauty of the firmament, that he could hardly ſuppreſs a notion that theſe bright objects were animated beings of ſome very high order, and were ſhedding ſome important influence on this earth, and upon every living creature in it. From this effect upon himſelf, he was ſure that at all times in thoſe countries, the minds of men muſt have had a tendency to that ſpecies of ſuperſtition; eſpecially when ſickneſs and diſeaſe, through long ſleepleſs nights, would work upon their mind with the fear of being incurable by human art, of their ſufferings being ſent upon them by ſome offended divinity as a puniſhment; all which would naturally direct their ſuperſtitious expiations and prayers to thoſe heavenly lights.

In eaſtern countries too, but particularly in Ægypt, where the falling of rain, and ſubſequent ſwelling of rivers, happens only at one particular ſeaſon, mens attention would be called to ſtudy and watch the ſeaſons, to meaſure the depth of water, the extention of the inundation, the quantity of ground that would be fertilized, &c. &c. Theſe peculiarities of their ſituation, would lead the inhabitants, in the earlieſt ages, to the ſtudy and practice of geometry.

But in thoſe eaſtern countries, animal bodies run ſo quickly into nauſeous putrefaction, that the early inhabitants muſt have avoided ſuch offenſive employments as anatomical enquiries, like their poſterity at this day. And in fact, it does not appear, by the writings of the Grecians, or Jews, or Phœnicians, or of other eaſtern countries, that Anatomy was particularly cultivated, by any of thoſe eaſtern nations. In tracing it backwards to its infancy, we cannot go farther into antiquity, than the times of the Grecian philoſophers. As an art in the ſtate of ſome cultivation, it may be ſaid to have been brought forth and bred up among them, as a branch of natural knowledge.

The æra of philoſophy, as it was called, began with Thales the Mileſian being declared by a very general conſent of the people, the moſt wiſe of all the Grecians, 480 years before Chriſt. The philoſophers of his ſchool, which was called the Ionian, cultivated principally natural knowledge. Socrates, the ſeventh in ſucceſſion of their great teachers, introduced the ſtudy of morals; and was thence ſaid to bring down philoſophy from heaven, to make men truely wiſe and happy*.

---

* Of his ſcholars, Ariſtippus founded the Cyrenaic ſect, Euclid the Megaric Phædo the Eliac, Antiſthenes the Cynic, and Plato the Academic.

His ſcholar and ſucceſſor, Plato, ſpent his whole life, firſt in acquiring wiſdom and knowledge himſelf, and then in teaching it to others. He carried the reputation of the Lycæum, the public ſchool at Athens, to the higheſt pitch of credit. Nothing, perhaps, contributed more to incite, to poliſh, and to raiſe the minds of the Grecians, to that diſtinguiſhed rank of excellence which all ſucceeding ages have allowed them to have poſſeſſed, than their public ſchools, and particularly thoſe at Athens; where perſuaſive eloquence was much ſtudied and honored, and made uſe of upon the moſt intereſting occaſions, for the recommendation and embelliſhment of all the nobler virtues. Young men had eaſy acceſs to the converſations and harangues of the moſt eloquent, the moſt learned, and the moſt reſpectable men among the Athenians. It is as eaſy to conceive, what a wonderful effect that muſt have had upon young and generous minds, as the fact is unqueſtionable, that the Grecians excelled all mankind in elegant ſimplicity and in grandeur of thought; and of courſe, in all the fine arts.

In the writings of Plato we ſee, that the philoſophers had carefully conſidered the human body, both in its organization and functions; and though they had not arrived at the knowledge of the more minute and intricate parts, which required the ſucceſſive labour and attention of many ages, they had made up very noble and comprehenſive ideas of the ſubject in general. The anatomical deſcriptions of Xenophon and Plato have had the honor of being quoted by Longinus, (§.xxxii.) as ſpecimens of ſublime writing; and the extract from Plato is ſtill more remarkable for its containing the rudiments of the *circulation* of the blood. "The heart, ſays Plato, is the centre or knot of "the blood-veſſels; the ſpring or fountain of the blood, which "is carried impetuouſly round; the blood is the *pabulum* or

" food of the fleſh; and for the purpoſe of nouriſhment, the " body is laid out into canals, like thoſe which are drawn " through gardens, that the blood may be conveyed, as from " a fountain, to every part of the pervious body."

Hippocrates was nearly contemporary with the great philoſophers of whom we have been ſpeaking, about 400 years before the Chriſtian æra. He is ſaid to have ſeparated the profeſſion of philoſophy and phyſic, and to have been the firſt who applied to phyſic alone, as the buſineſs of his life. He is likewiſe generally ſuppoſed to be the firſt who wrote upon anatomy. We know of nothing that was written expreſsly upon the ſubject before; and the firſt anatomical diſſection which has been recorded, was made by his friend Democritus, of Abdera.

After the reſtoration of Greek learning in the fifteenth century, it was ſo faſhionable, for two hundred years together, to extol the knowledge of the ancients in Anatomy, as in other things, that Anatomiſts ſeem to have made it a point of emulation, who ſhould be moſt laviſh in their praiſe; ſome from a diffidence in themſelves; others through the love of detracting from the merit of contemporaries; many from having laboriouſly ſtudied ancient learning, and having become enthuſiaſts in Greek literature; but more, perhaps, becauſe it was the faſhionable turn of the times, and was held up as the mark of good education and fine taſte.

If we read the works of Hippocrates with impartiality, and apply his accounts of the parts, to what we *now* know of the human body, we muſt allow his deſcriptions to be imperfect, incorrect, ſometimes extravagant, and often unintelligible, that of the bones only excepted. He ſeems to have ſtudied theſe with more ſucceſs than the other parts, and tells us that he had an opportunity of ſeeing an human ſkeleton.

Here we may obſerve, that the working up of any complex ſcience or art, ſo as to reduce it to a tolerable ſyſtem is a more arduous taſk, and requires much more time, and the collected obſervations of a much greater number of men, even through a ſucceſſion of ages, than could well be imagined by any perſon, who knows it only in an improved ſtate. We might ſay of improved ſcience and art, what has been frequently ſaid of particular diſcoveries, when known; it appears to be ſo eaſy or obvious, that one wonders it had not been made one or two thouſand years ſooner.

From Hippocrates to Galen, who flouriſhed towards the end of the ſecond century, in the decline of the Roman empire, that is, in the ſpace of 600 years, Anatomy was greatly improved; the philoſophers ſtill conſidering it as a moſt curious and intereſting branch of natural knowledge, and the phyſicians as a principal foundation of their art. Both of them, in that interval of time, contributed daily to the common ſtock, by more accurate and extended obſervations, and by the lights of improving philoſophy.

To trace our art, with learning in general, from the times of Hippocrates to that of Galen, we ſhall give a ſketch of the ſtudies at the two famous ſchools among the Greeks, viz. at Athens, and at Alexandria; and of the introduction of Greek literature among the Romans.

At Athens, Ariſtotle, the favourite pupil of Plato, gave himſelf up to philoſophy and phyſic; and was appointed a public teacher at the Lycæum, at the memorable period when Grecian liberty was giving way to the power of Macedon. He was patronized by Philip, and made tutor to Alexander. He was a man of great natural acuteneſs, improved by very extenſive and deep ſtudy; of a courtly turn for elegance and expence, and adapted as much as poſſible, all his philoſophy to his pupil, and to the court. He was the firſt we know of, who collected a great library, which, with all his own compoſitions, he left to his favourite pupil, Theophraſtus; who, at his deſire, ſucceeded him as public teacher of philoſophy in the Lycæum, with the ſame turn for elegance, and with the higheſt character for natural acuteneſs, and unremitting perſeverance in ſtudy.

Theſe two great men lived in the moſt perfect friendſhip; were very ſimilar in their character, in their ſtudies and purſuits: and as they had applied very particularly to the ſtudy of animal bodies, they not only made great improvements, eſpecially in phyſiology, but raiſed the credit of natural knowledge, and ſpread it as wide as Alexander's empire.

Few of Ariſtotle's writings were made public in his life-time. He affected to ſay that they would be unintelligible to thoſe, who had not heard them explained at his lectures: and, except the uſe which Theophraſtus made of them, they were loſt to the public for above 130 years after the death of Theophraſtus; and at laſt came out defective from bad preſervation, and corrupted by men, who, without proper qualifications, preſumed to correct, and to ſupply what was loſt. For, Theophraſtus left theſe, and his whole library, to one Neleus, of

Scepſis, who left them to his relations. Theſe hid them in a cave, leſt their kings of Pergamus ſhould ſeize them for their own library, which they were extending with emulous oppoſition to that which the Ptolemies were collecting with ſo much ambition at Alexandria. The books were at laſt taken out, but much damaged, by the proprietors the heirs of Theophraſtus, and ſold for a great ſum of money to Apellico of Teium, who was buying up libraries at that time. This library ſoon afterwards was ſeized upon by Scylla, and ſent to Rome.

From the time of Theophraſtus, the ſtudy of natural knowledge, at Athens, was for ever on the decline; and the reputation of the Lycæum and Academy was almoſt confined to the ſtudies which are ſubſervient to oratory and public ſpeaking.

We may eaſily conceive, that ſtudy in general muſt have been much interrupted at Athens, by the great ſtruggle which was maintained for liberty, before that city fell under the calm and ſettled government of the Romans. In the times of Philip the father of Perſeus, the Athenians having made an alliance with the Romans, that king attempted to ſurprize Athens. He failed; and being exaſperated, reduced to rubbiſh and ruin, the Lycæum, the ſacred groves, many temples, tombs, &c. and laid all the environs waſte; upon which the Athenians in revenge, paſſed the memorable decree for deſtroying all the ſtatues and inſcriptions, which had been ſet up in honor of the Macedonian family.

At the breaking out of the Mithridatic war, about 87 years before Chriſt, Athens, by the contrivance of Ariſteon, deſerted the Romans, her friends, and allies, and with moſt of the Greek cities, joined Mithridates. Sylla was ſent into Greece: moſt of the other cities ſubmitted, but Athens ſtood an obſtinate ſiege. Archelaus defended the Piræus, and Ariſteon Athens. Sylla's army was ſupported by the ſacred treaſures, taken by Lucullus from the temples of Delphi and Epidaurus. What remained of the trees in the ſacred groves, was cut down to ſupply warlike machines for carrying on the ſiege. The town was at length taken, pillaged, almoſt deſtroyed, and great numbers of the inhabitants put to the ſword.

After Athens had begun to flouriſh again, under the protection of the Romans, very unfortunately it took part againſt Cæſar, firſt with Pompey, then with Brutus and Caſſius, and laſt of all with Marc. Anthony; for all which it felt the reſentment of Auguſtus, and languiſhed, till Hadrian reſtored it to its ancient government, and protected the ſchools; ſoon after whom, both Antoninus Pius, and Marcus Antoninus, with great partiality, encouraged ſtudies there, and gave ſalaries to their profeſſors.

So much for that famous ſeat of learning and elegance. The other great inſtitution for Grecian education, was at Alexandria in Ægypt. That city, laid out, and begun to be built by Alexander himſelf, became, ſoon after his death, the metropolis of a great and rich Greek empire. The firſt Ptolemies, both from their love of literature, and to give true and permanent dignity to their empire, and to Alexander's favourite city, ſet up a grand ſchool in the palace itſelf, with a muſeum, and a library, which we may ſay, has been the moſt famed in the world. It has been ſuppoſed to have been founded by the firſt Ptolemy, when he had aſſociated his ſon Philadelphus in the throne of Ægypt, and to have been put under the direction of Demetrius Phalereus. The firſt race of the Ptolemies, from their virtues, and love of learning, were daily adding to the number of books in the library, inviting and protecting men of eminence, in every branch of literature, ſcience, or art, and adding to the ſplendor of the ſchools. This noble foundation grew to be ſo much the pride and boaſt of the empire, that Ptolemy Phyſcon himſelf, one of the moſt brutal and profligate of the race, was ſtudious of patronizing learned men, and ſo earneſt in collecting books, that, in jealouſy of Eumenes, who was collecting a ſplendid library of the ſame kind at Pergamus, and the more certainly to preſerve the ſuperiority of the Alexandrian library, he prohibited the exportation of Ægyptian paper. Beſides this great library in the palace, there was a ſecond collected in the Serapion, or temple of Serapis. The firſt was burnt when the Alexandrians attacked and beſieged Julius Cæſar in the palace. The ſecond, which was preſerved, was in a ſhort time enriched by the addition of the rival library from Pergamus, conſiſting of 200,000 volumes, which Anthony brought away, and preſented to Cleopatra. This laſt great collection of books ſuffered greatly in the year 390, when the temple of Serapis was deſtroyed by the Chriſtian zealot, the Patriarch Theophilus, at the fall of paganiſm, and finally and compleatly burnt by the Saracens, when they took that city in the year 640.

After the ſchools were opened at Alexandria, and protected upon ſo noble a plan, men of learning flocked thither, both becauſe they would be encouraged and protected; whereas, in Greece and in Aſia, they were expoſed to the endleſs horrors, oppreſſions, and ravages, occaſioned by the contentions and wars, which were carried on among the ſucceſſors of Alexander. In all thoſe other extenſive countries, the finer arts of peace were every day more interrupted or neglected; and at Alexandria, on the contrary, were daily riſing to higher credit. In a ſhort time this ſchool became as much the moſt eminent for ſcience, for every branch of natural knowledge, and for phyſic, as Athens was for oratory.

The two diſtinguiſhed Anatomiſts at Alexandria, were Eraſiſtratus, the pupil and friend of Theophraſtus, and Herophilus. Their voluminous works are all loſt; but they are quoted by Galen, almoſt in every page. Theſe profeſſors were probably the firſt who were authorized to diſſect human bodies; a peculiarity which marks ſtrongly the philoſophical magnanimity of the firſt Ptolemy, and fixes a great æra in the hiſtory of Anatomy. And it was, no doubt, from this particular advantage which the Alexandrians had above all others, that their ſchool not only gained, but for many centuries preſerved, the *firſt* reputation for medical education. Ammianus Marcellinus, who lived about 650 years after the ſchools were ſet up, ſays, they were ſo famous in his time, that it was enough to ſecure credit to any phyſician, if he could ſay that he had ſtudied at Alexandria.

Herophilus has been ſaid to have anatomized 700 bodies. We muſt allow for exaggeration. Nay, it was ſaid, that both he and Eraſiſtratus made it a common practice to open living bodies, that they might diſcover the more ſecret ſprings of life. But this, no doubt, was only a vulgar opinion, riſing from the prejudices of mankind; and, accordingly, without any good reaſon, ſuch tales have been told of modern anatomiſts, and have been believed by the vulgar.

In the period of the hiſtory of our art, of learning and arts in general, which we are now conſidering, viz. from Ariſtotle to Galen, we muſt ſee how the arts of Greece were conveyed to the Romans: for, in the firſt part of that period the Romans were barbarians, but in the laſt they were poliſhed and learned, and were become the ſovereigns both of Athens and Alexandria.

Long after the Romans were become a great and formidable ſtate, they continued to be a rough unpoliſhed people: military glory was the great object of their ambition, and the love of their country their principal virtue. The ſoft arts of peace, refinement and elegance, they deſpiſed, as tending to enervate the mind, and to ſuppreſs that martial enthuſiaſm which they cultivated with ſo much ardor. And their pride, or contracted ſelf-love, which we ſee operating in the ſame manner among modern nations, made them affect to deſpiſe in others, what they themſelves had not been happy enough to attain.

But when their empire grew to be extenſively reſpected and dreaded, the Romans became connected in alliances, diſputes, and wars, with the Grecian ſtates, their neighbours; particularly about the times of Pyrrhus, juſt before the *firſt* Punic war, when they had driven him out of Italy, and taken Tarentum, and ſome other Greek cities, in that part of Italy called Magna Græcia, about 274 years before Chriſt. This intercourſe gradually inſpired the Romans with ſome taſte for the Grecian arts, and a deſire of ſtudying the language of that highly cultivated people. In a little time more, the Romans had got poſſeſſion of Meſſana in Sicily, and took Agrigentum by ſiege; and about 236 years before

Chriſt, at the end of the firſt Punic war, they had poſſeſſed themſelves of all Sicily, except Syracuſe, which was under the dominion of Hiero.

Two hundred and twenty-ſix before Chriſt, Roman embaſſadors were ſent to Athens and Corinth, upon the breaking out of the ſocial war between the Ætolians, ſupported by Philip, and the Achæans, protected by the Romans. 207 years before Chriſt, they took Syracuſe; upon which all Sicily having ſubmitted became a Roman province.—189 years before Chriſt, a Roman army was ſent into Aſia, againſt Antiochus the Great, whoſe rich ſpoils being brought to Rome, introduced a taſte for Aſiatic luxury.—165 years before Chriſt, they had reduced Macedon to a Roman province, and from that country raiſed a reſpectable library at Rome; and their commiſſioners ſent 1000 of the principal men of Achæa to be tried at Rome, where they were condemned, and diſperſed over Italy, to different places of impriſonment.

About this time the Romans had a conſtant and encreaſing intercourſe with the Grecians, by reciprocal complaints, accuſations, pleadings, &c. in one of which Carneades, the Athenian philoſopher and orator, inſpired the younger men, eſpecially of the Roman ſenate, with the higheſt veneration for eloquence. The Romans every day treated the Grecians with more imperiouſneſs, till 146 years before Chriſt, all Greece was made a Roman province, in conſequence of Mummius defeating the Achæans; when Corinth, the ſeat of the fineſt arts, was plundered and burnt to the ground, and the much valued pictures and works in ſculpture which it contained, were conveyed to Rome.

All this neceſſarily occaſioned a conſtant intercourſe, a mixture with the people, more intimate acquaintance with their language and manners, and a reliſh for their ſtudies, their elegant arts, and works of every kind.

The moſt diſtingniſhed men in the Roman republic ſoon courted the company and the inſtructions of the Grecian philoſophers; even entertained them conſtantly in their houſes, for the ſake of learning their language and their philoſophy. Scipio Africanus, Lælius, and Furius did ſo, though Cato the cenſor, drove the Grecian rhetoricians from Rome, before their buſineſs was brought to a concluſion, for fear of their corrupting, as he called it, the Roman youth, giving them a turn for ſpeaking rather than for acting, and diverting them from the ſtudy of the laws and cuſtoms of their forefathers. Such was *his* averſion, and that of many leading men at Rome, to Grecian manners, that a rigid edict was twice paſſed, to prohibit Latin rhetoricians from teaching their art.

Lucullus, the conqueror of Macedon, was particularly devoted to Grecian learning, and had always ſome of the moſt eminent orators and philoſophers about him. He brought home with him to Rome, both the books and the moſt enlightened men of Greece; and, which was the moſt truely honorable part of his triumph, he made his own houſe their aſylum. Cicero likewiſe, by his attention to the learned Greeks, and to their philoſophy, contributed very much to give them credit at Rome.

It was the weight and influence of thoſe great characters, which accompliſhed the transfuſion of learning, philoſophy and arts, from the Grecians to the Romans, and gave riſe to the learning, the taſte and elegance of the Auguſtan age.

But unfortunately the Romans did not adopt the Grecian manner of educating their young men in public ſchools at home. They either ſent them to ſtudy in Greece; or had private tutors in their families from that country. From which it is evident that among the Romans, good education muſt have been confined to a few, in proportion to the whole: and it may be preſumed, that this was one reaſon why they fell ſo far ſhort of the Grecians as a learned and refined people. The rich alone could get the beſt education; and no fortune could command the acquiſition of more than what continued to be taught at Athens and Alexandria, in the time of the Roman emperors. But Grecian ſtudies, and all the ingenious and fine arts, were conſtantly on the decline from the time that Grecian liberty was loſt.

In comparing the Romans with the Grecians, if we allow them to have had ſome poets, orators, philoſophers, and hiſtorians, deſerving to be brought into competition with thoſe of the Greeks, to the eternal diſgrace of their empire, it muſt be allowed, that their hiſtory is hardly embelliſhed with the name of a ſingle Roman, who was great in ſcience or art, in painting, or ſculpture, in phyſic, or in *any* branch of natural knowledge. And therefore we cannot introduce *one* Roman into the hiſtory of Anatomy; for, Pliny and Celſus were mere compilers from the Greeks.

Theſe hiſtorical obſervations prepare us for an account of Galen. He received a liberal education at Pergamus, the place of his birth; and began at 17 years of age to join the ſtudy of phyſic to that of philoſophy. In his 21ſt year, A. D. 151, he went to Smyrna, where he likewiſe ſtudied both; then to Corinth, to ſtudy under Numeſianus, a great Anatomiſt of thoſe times, and to many other parts of Greece and Aſia; and then to Alexandria, when the ſchool was at the higheſt credit which it had ever attained under Roman emperors. Claudius had founded and given his name to a new muſeum there, and appointed ſome new lectures. Adrian had honored the ſchools with his preſence, and had even taken a ſhare in the public diſputations; and Antoninus Pius had alſo ſhewn particular favor to Alexandrian ſtudies.

At the age of 28 Galen returned, much improved in the ſtudies of his profeſſion, from Alexandria to his native city Pergamus, where he was charged with the care of the gladiators for ſix or ſeven years. At 34 years of age, A.D. 164, he came to Rome, in the reign of Marcus Antoninus and Lucius Verus; and acquired great fame with the people for his cures and public diſſections, as well as much envy and detraction from the reſt of the faculty, an honor commonly enough beſtowed upon diſtinguiſhed eminence. At the age of 37 he went home to Pergamus, that he might avoid a great plague which then raged at Rome. Next year he was called to Aquilea by the two emperors, and then to Rome; he excuſed himſelf from following the emperor to his wars; but remained at Rome, where he ſpent much of his time in ſtudy and writing.

For thoſe times his writings muſt be allowed to be excellent. What he principally wanted, to be truly reſpectable, with regard to the more obvious parts of Anatomy, was, opportunities of diſſecting human bodies: for his ſubject was moſt commonly ſome quadrupede whoſe ſtructure was ſuppoſed to come neareſt to the human.

Thus Anatomy, for a long ſeries of years, had been advancing to that degree of perfection, to which it was brought in Galen's time; and from that time, it declined again. We may obſerve, that when any man arrives at the reputation of having carried his art far beyond all others, it ſeems to throw the reſt of the world into a kind of deſpair. Hopeleſs of being able to improve their art ſtill further, they do nothing. The great man, who was at firſt only reſpectable, grows every day into higher credit; till at length he is deified, and every page of his writings becomes ſacred and infallible. This was actually the fortune of Ariſtotle in philoſophy, and of Galen in Anatomy for many ages, and ſuch reſpect ſhewn to any man, in any age, muſt always be a mark of declining ſcience.

The ſtudy of Anatomy, learning, and ſcience in general, met with great checks, and diſcouragement, from the confuſions and diſtreſſes which attended the decline, the diviſion, (A. D. 364) and the final ſubverſion of the Roman empire. With the loſs of their liberty, the Grecians firſt, and then the Romans, gradually loſt vigor in all intellectual purſuits; their taſte for learning, and for every kind of excellence became weaker and depraved; ſpecious ſophiſtry, or unmeaning declamation took the place of good ſenſe and ſound philoſophy; and where no improvement could take place, the arts were for ever on the decline. In the year 269, the Goths had poſſeſſed themſelves of Athens; but they were ſoon driven out of Greece by Claudius II. In the year 410, Alaric took and pillaged both Athens and Rome, and deſtroyed their libraries. In the year 455, Genſeric, the Vandal, from Africa, landed a great force at the mouth of the Tiber, ſacked Rome, and revenged Carthage. He carried off the portable riches of Rome, and the invaluable works of art, which had been accumulated in the capitol and in the temples, from the ſpoils of the innumerable nations which had been conquered by the Romans. And the great irruption of the Goths into Italy, in the year 476, put an end to every kind of liberal ſtudy, and to the Roman empire itſelf in Europe.

The ignorance which came upon the whole world with the fall of the Roman empire, and kept its poſſeſſion through ſo many groſs and diſmal ages, was not brought on merely by the irruptions of the northern barbarians into the weſt, and of the Saracens afterwards into the eaſtern parts of the Roman empire, which we ſhall preſently conſider. Much was owing to the unhappy contentions, and deſtructive zeal of religious ſects, and to oppreſſive perſecutions. The Jews entertained a rooted averſion to Greek literature, and prohibited the ſtudy of it. The firſt Chriſtians were illiterate and deſpiſed human learning. It was objected to their doctrine by Celſus, and all who oppoſed it, that it was adopted only by low mechanics and women. And, as oppoſition in religion creates unguarded zeal, the reflexions thrown out againſt the new doctrines, by philoſophers and men of learning, made the Chriſtians preach up their ſyſtem, as in its nature oppoſite to, and ſubverſive of human learning.

In the ſecond century the new ſyſtem, in oppoſition to Paganiſm, began to prevail, and make proſelites among men of education. One ſide ſaid that truth prevailed; the other, that the contagion of fanaticiſm was growing incoerceable; the diſpute grew hotter, and brought on perſecution, which made the converts more warm in vilifying and proſcribing all philoſophy. What encreaſed their hatred to philoſophy and Greek learning was, its being ſuppoſed to be the ſource of all the hereſies which ſprang up in the church. This particularly made them declame with violence againſt it. Yet many of them allowed or recommended as much learning as could be uſeful in the defence of their doctrine. However they were not merely ignorant in natural knowledge; they held phyſics to be beyond human powers; taught that morals and religion were our only objects; and ventured no farther in natural knowledge than was revealed in holy writ. When faith was thought to be all that was worth acquiring, and prayer almoſt our only duty, there was an end to liberal education, and to every ingenious enquiry, inſomuch that the Goths, and other barbarians from the north, inſtead of having introduced and eſtabliſhed ignorance in the weſt, found no learning where they came, but a debaſed and corrupted theology, which they adopted and propagated.

About the middle of the ſeventh century, what little learning was ſtill left in Aſia and Ægypt was almoſt extinguiſhed by the bigotted, illiterate, and barbarous Saracens, the converts to Mohammed. In the year 640, they made themſelves maſters of Alexandria, which had continued to be the greateſt ſchool, and contained in books the greateſt treaſures in the world, for about 900 years together. They not only put an immediate ſtop to all liberal ſtudies there, but deſtroyed the ſacred remains of all human learning, by burning the whole of that invaluable library; profeſſing as an excuſe for the horrid deed, that if the books contained only what was in the Koran, they were uſeleſs; and impious if they contained more than what the prophet had thought proper to be revealed to man.

In Mohammed's time, very few of the Arabs could read or write. He could do neither; but made uſe of a ſcribe, Warakanus, a relation of his wife, in compoſing the Koran; and that human erudition might not diſcover its weakneſs, he made a law, by which it was death for any Muſſulman to learn the liberal arts. The Koran was a compilation from Chriſtianity and other religions, but principally from Judaiſm.

In leſs than 100 years after Mohammed (622) became a Calif, the Saracens had conquered all the countries round Arabia, Syria, Phenicia, Paleſtine, Ægypt, all the Coaſt of Africa towards the Mediterranean, and Spain; and as they had ſucceeded in their attempt upon the weſtern part of Europe, by croſſing the Mediterranean from Africa, in the year 711, and ſeizing upon Spain, ſo they attempted to break in upon the eaſtern part of Europe, in a few years after, by coming over the Helleſpont, and laying ſiege to Conſtantinople.

But here, Providence was pleaſed to put a ſtop to their ſucceſſes, and to ſet bounds to the devaſtations and murders, which they were daily committing upon learning. In the year

717, they were forced to raiſe that ſiege with great loſs; which event was perhaps more important for learning, than any that has happened ſince the days of Adam. For, as the Saracens at firſt extinguiſhed all liberal ſtudies wherever they conquered and ſettled; and as the Gothic tribes had already done ſo, over the whole of the weſtern empire, there was only Conſtantinople, with the neighbouring provinces, left, where learning could live; and there it was fortunately preſerved for us, though in a languiſhing and corrupted ſtate, through ſeven long centuries, of almoſt univerſal barbarity and ignorance.

Yet, after the rage of the Saracens for conqueſt began to be ſatiated; and when they found themſelves firmly ſettled in their eaſtern acquiſitions, their Califs began to be ſenſible of the great advantage of learning, in many branches of arts and ſcience, and particularly in phyſic. The great ſuperiority of the Chriſtian phyſicians was evident, or confeſſed. They were therefore protected and employed about the court; and their influence grew in proportion to the ſuppoſed importance of their ſervice. That influence was judiciouſly and honorably employed in the cauſe of liberal ſtudies, and, by degrees getting the better of Mohammed's prohibition, inſpired the Califs with the love of letters.

In 762, Almanſor built Bagdad, and made it the ſeat of the Saracen empire. He had two Chriſtian phyſicians and an aſtrologer, who gave him a keen taſte for the arts. He gave large premiums for tranſlations of the Greek writers, both into Syriac, the vernacular language at Bagdad, and into Arabic. Theſe were principally executed by the Chriſtians at Bagdad; and moſt of the Arabic verſions were made from the Syriac. For this reaſon the Syriac verſions were the beſt; and becauſe they were likewiſe the earlieſt, and were therefore made, when the Greek language was better underſtood.

Raſjidus, who began his reign about the year 786, encouraged Greek literature among his ſubjects, and eſpecially poetry; but he was too ſuperſtitious.

But under his ſecond ſon Abdalla or Mamon, who became Calif, Anno 813, the arts flouriſhed more than ever, and ſtill by the influence of the Chriſtian phyſicians. Of theſe Joannes Meſne the older, a Chaldean, came to ſtudy the arts and medicine at Bagdad; got the direction of the hoſpital there, and taught philoſophy and phyſic in Syriac, with great reputation. Honain, an Arab, but Chriſtian, was his ſcholar. Upon being expelled the ſchool, Honain retired among the Greeks two whole years, and came back to Bagdad with a very good knowledge of the Greek language, and well provided with Greek authors, where he and his family tranſlated the beſt writers in phyſic, mathematics, and aſtronomy. Abdalla invited and protected all ſorts of learned men; enquired after the beſt Greek authors, ſearched Syria, Armenia, and Ægypt, for copies of them, and had them tranſlated.

In his wars and treaties with the Greek or eaſtern empire, he practiſed every art to bring away their learned men, and their books. He lived to the year 833, when there were flouriſhing ſchools at Bagdad, Couffa, Baſora, Damaſcus, and all the great cities of the Saracen empire, which were encouraged by ſeveral of his ſucceſſors.

Leo Africanus tells us of moſt magnificent buildings, the old public ſchools, for all branches of learning at Cairo, Morocco and Fez; but he ſays, the princes and profeſſors of the faith, from about forty years before, had prevented teaching philoſophy, mathematics, and aſtrology.

The Saracens, who came into Spain, deſtroyed at firſt all the Greek books which the Vandals had ſpared; but though their government was in a conſtant ſtruggle and fluctuation during 800 years before they were driven out, they received a taſte for learning from their countrymen of the eaſt; ſeveral of their princes encouraged liberal ſtudies; public ſchools were ſet up at Cordova, Toledo, and other towns, and tranſlations of the Greeks into Arabic, were univerſally in the hands of their teachers.

Thus was the learning of the Grecians transferred to the Arabians. But though they had ſo good a foundation to build upon, our art was never improved while they were maſters of the world; and no wonder. They were ſatisfied with commenting upon Galen; and, I believe, made no diſſections of human bodies.

Upon this queſtion I ſhall only obſerve, that ſo far as I have had occaſion to conſult the Arabic writers, no clear proof of their having done ſo has occurred to me. And if they had done ſo, in ſuch a quantity of writings as they have left, we ſhould, no doubt, have met with a hundred proofs of the fact. Abdollaliph, who was himſelf a teacher of Anatomy, a man eminent in his time, (at and before 1203) for his learning and curioſity; a great traveller, who had been bred at Bagdad, and had ſeen many of the great cities and principal places for ſtudy in the Saracen empire; who had a favourable opinion of original obſervation, in oppoſition to book-learning; who boldly corrected ſome of Galen's errors, and was perſuaded that many more might be detected; this man, I ſay, never made, or ſaw, or ſeemed to think of a human diſſection. He diſcovered Galen's errors in the oſteology, by going to burying-grounds, with his ſtudents and others, where he examined and demonſtrated the bones; and he earneſtly recommended that method of ſtudy, in preference even to the reading of Galen; and thought that many farther improvements might be made; yet he ſeemed not to have an idea that a freſh ſubject might be diſſected with that view.

Perhaps the Jewiſh tenets which the Mohammedans adopted about uncleanneſs and pollution, might prevent their handling dead bodies; or their opinion of what was ſuppoſed to paſs between an angel and the dead perſon, might make them think diſturbing the dead highly ſacrilegious. Such however as Arabian learning was, for many ages together, there was hardly any other in all the weſtern countries of Europe. It was introduced by the eſtabliſhment of the Saracens in Spain, in 711, and kept its ground till the reſtoration of learning in the end of the 15th century. The ſtate of Anatomy in Europe, in the times of Arabian influence, may be ſeen by reading a very ſhort ſyſtem of Anatomy, drawn up by Mundinus, in the year 1315. It was extracted principally from what the Arabians had preſerved of Galen's doctrine; and, rude as it is, in that age, it was judged to be ſo maſterly a performance, that it was ordered by a public decree, that it ſhould be read in all the ſchools of Italy; and, it actually continued to be almoſt the only book, which was read upon the ſubject, for above 200 years. Corteſius gives him the credit of being the great reſtorer of Anatomy, and the firſt who diſſected human bodies among the moderns. Notwithſtanding this, and other reſpectable teſtimonies in his favor, were I to judge of his rank by the work itſelf, I ſhould, without heſitation, place him rather in the end of the dark ages, than in the beginning of the more enlightened.

Before we take leave of the Saracens, in the hiſtory of our art, it is but juſtice to acknowledge, that however deſtructive their new ſuperſtition was, in its nature, to human learning, *that* had been reduced to ſo abject a condition in the eaſt, when the Saracens made their firſt appearance upon the great ſtage of the world, that little more miſchief remained for them to do, than that of deſtroying all the books which were no longer read; and this finiſhing blow their ſuperſtitious brutality gave with a vengeance.

In the latter half of the thirteenth century, the Arabian learning was loſt in the eaſt by the conqueſts of the more barbarous Turks, who raiſed the Ottoman, upon the ruins of the Saracen empire. They took Bagdad in the year 1258, and at once put an end to every kind of ſtudy, in that famous ſeat of empire, where, but a ſhort time before, there were reckoned to be 6000 learned men in the ſchools.

In the fourteenth century, learning began to dawn in Europe, eſpecially in Italy, where a taſte for literature was riſing, which was ſoon afterwards rewarded or gratified with the full reſtoration of the ancient Grecian learning.

As with individuals, ſo it is with large ſocieties of men, and with nations; what ſeems pregnant with deſtruction and miſery, ſometimes proves a great bleſſing. Had not the Saracen empire been overturned by the Turks, probably Europe would have been ſtill overwhelmed in ignorance. The barbarous Turks put an end to Arabian government, and Arabian ſtudies, fixing the citadels of ignorance, deſpotiſm, and oppreſſion, wherever they conquered and ſettled. Conſtantinople, and the neighbouring Greek cities, contained the ſmall, but precious remains of the Grecian language, learning and arts. The Turks ſurrounded them, reduced them gradually to greater diſtreſſes, and at laſt by ſacking Conſtantinople with ſuperſtitious rage and mercyleſs ſlaughter, threatened the final extinction of all the lights, which that moſt ingenious of all people had ſet up.

But Providence had ordered that this dreadful revolution ſhould have the contrary effect. The danger which ſurrounded that devoted people, forced them to implore the protection of the pope, and Chriſtian princes of the weſt; and their diſtreſſes and prayers procured a ſympathizing compaſſion.

In 1387, Chryſoloras, a learned and ſenſible Grecian, was ſent as an embaſſador, to manage that important buſineſs at the different courts; and conducted himſelf with ſo much diſcretion, as to ingratiate himſelf wherever he came. Juſt at this time Tamerlane gained his great victory over Bajazet, Sultan of the Turks, and made him priſoner.

This event relieved the Greeks from immediate apprehenſions; and Chryſoloras ſettled in Italy, where he had been ſo well received. He taught the language, and explained the doctrines of the beſt ancient Greek authors, to a great number of ſtudious Italians at Venice, Florence, Rome, and Pavia; which, with the joint labour and influence of his ſcholars, for he lived and laboured till 1414, ſoon diffuſed an inſatiable thirſt for that ſtudy, over the whole country.

Upon the great cataſtrophe, many of the Greeks, eſpecially thoſe with cultivated minds, who were leſs diſpoſed to bear the inſults and cruelties of barbarians, fled for protection to Venice, Padua, and other adjacent ſtates, and brought their manuſcripts with them, juſt at the time when Greek literature was ſo much coveted in Italy. Pope Nicolas V. the celebrated family of Medicis at Florence, and ſome other princes, made noble exertions for improving ſo favourable an opportunity. By their example, their munificent patronage, and recommendations, the Greeks, who had come among them, were liberally ſupported, more were invited, and Laſcar, one of them, was ſent back into Greece, at a very great expence, to buy up all the Greek manuſcripts that could be found. His collection at this day makes a very valuable part of the Florentine library.

Of the learned Greeks who came over, the principal were Pletho, Beſſarion, Geo. Trapezuntius, Gaza, Argyropilus, and Laſcar; and among the Italians, the principal ſcholars at that time were, Ficinus, Poggius, Politianus, Philelphus, Valla, Hermolaus Barbarus, Leonardus Brunus Aretinus, and many others. Theſe were immediately employed in tranſlating and explaining the beſt Greek authors. And, as if Providence had meant to ſhew how quick the tranſition might be, juſt at this time, the invaluable art of printing was invented or divulged; and thereby all the remaining treaſures of ancient Greece and Rome, were preſently ſpread over Europe.

In looking over the birth of ſcience and tracing its progreſs at different periods, through different countries, it cannot eſcape obſervation, how much all the enlightened parts of the world owe to the people of Greece. They were twice totally conquered, we may ſay ruined; and at their fall, each time, they transferred their learning to the Italians; and each time the Italians conveyed it over the world. At this hour it is the great enjoyment and comfort of all Europe, and of many parts of Aſia, Africa, and America.

The latter half of the fifteenth century was the moſt extraordinary for great events that is to be found in hiſtory. In that time there was a full reſtoration of ancient learning; printing was invented; a navigable paſſage was diſcovered to the Eaſt-Indies; and Columbus found out the other half of the terraqueous globe.

When we reflect upon the great events of the fifteenth century, it might be thought wonderful, that Italy, at that time the great fountain of ſuperſtition, ſhould have been firſt ſmitten with the love of ancient learning and liberal ſtudies. It was principally owing to the ſituation, the great power, and extenſive commerce of Venice: and there were ſome favourable peculiarities for inviting the Italians to ſuch ſtudies.

In the firſt place, the ſtupendous and enchanting remains of the ancient arts, muſt have given an Italian, who had any ſoul in his body, a veneration for antiquity, a curioſity about it, and ſome degree of information likewiſe. The numberleſs inſcriptions which he would meet with, and ſome of them upon ſuch noble works of art, would both whet his deſire for more knowledge of that kind, and be a daily exerciſe in language. He would neceſſarily grow up with ſomething of a fine taſte for architecture and ſculpture, and, as all the arts are allied, a taſte for one of them would beget a taſte for them all. When he reflected upon what Italy muſt have been in former times, the *amor patriæ* would add to the enthuſiaſm of an Italian. Then, Italy being the ſeat of papal hierarchy, to which all the Latin or weſtern church was ſubject, it was the great centre for information, and correſpondence, for eccleſiatic applications and preferments; and therefore the rendezvous of the moſt learned, and moſt acute men of all Europe.

In tracing the great revolution of learning, which happened in the fifteenth century, I am enabled to carry the hiſtory of the improvement of Anatomy farther back than has been generally done by our own writers; and to introduce into the annals of our art, a genius of the firſt rate, Leonardo da Vinci, who has been overlooked, becauſe he was of another profeſſion, and becauſe he publiſhed nothing upon the ſubject. I believe he was, by far, the beſt Anatomiſt and phyſiologiſt of his time; and that his maſter and he, were the very firſt who raiſed a ſpirit for anatomical ſtudy, and gave it credit: and Leonardo was certainly the firſt man we know of who introduced the practice of making anatomical drawings.

Vaſſare, in his lives of the painters, ſpeaks of Leonardo thus, after telling us that he had compoſed a book of the Anatomy of a horſe, for his own ſtudy, "He afterwards applied himſelf with more diligence to the human Anatomy, " in which ſtudy he reciprocally received and communicated " aſſiſtance to Marc. Antonio della Torre, an excellent philoſopher, who then read lectures in Pavia, and wrote upon " this ſubject; and who was the firſt, as I have heard, " who began to illuſtrate medicine from the doctrine of " Galen, and to give true light to Anatomy, which till that " time had been involved in clouds of darkneſs and ignorance. " In this he availed himſelf exceedingly of the genius and " labour of Leonardo, who made a book of ſtudies, drawn " with red chalk, and touched with a pen, with great diligence of ſuch ſubjects as he had himſelf diſſected; where " he made all the bones, and to thoſe he joined, in their " order, all the nerves, and covered them with the muſcles. " And concerning thoſe, from part to part, he wrote remarks " in letters of an ugly form, which are written by the left " hand, backwards, and not to be underſtood, but by thoſe " who know the method of reading them; for they are not " to be read without a looking-glaſs. Of theſe papers of " the human Anatomy, there is a great part in the poſſeſſion " of M. Franceſco da Melzo, a Milaneſe gentleman, who, in " the time of Leonardo, was a moſt beautiful boy, and " much beloved by him, as he is now a beautiful and genteel " old man, who reads thoſe writings, and carefully preſerves " them, as precious relicts, together with the portrait of Leonardo, of happy memory. It appears impoſſible that that " divine ſpirit ſhould reaſon ſo well upon the arteries, and " muſcles, and nerves, and veins; and with ſuch diligence " of every thing, *&c. &c.*"

There

Thoſe very drawing and the writing, are happily found to be preſerved in his Majeſty's great collection of original drawings. Mr. Dalton, the King's librarian, informed me of this, and at my requeſt procured me the honor of leave to examine them*. I expected to ſee little more than ſuch deſigns in Anatomy, as might be uſeful to a painter in his own profeſſion. But I ſaw, and indeed with aſtoniſhment, that Leonardo had been a general and a deep ſtudent. When I conſider what pains he has taken upon every part of the body, the ſuperiority of his univerſal genius, his particular excellence in mechanics and hydraulics, and the attention with which ſuch a man would examine and ſee objects which he was to draw, I am fully perſuaded that Leonardo was the beſt Anatomiſt, at that time, in the world. We muſt give the fifteenth century the credit of Leonardo's anatomical ſtudies, as he was fifty-five years of age at the cloſe of that century.

In due time, as I doubt not of being honoured with the permiſſion of the King, who loves and encourages all the arts, I hope to engrave and publiſh the principal of Leonardo's anatomical deſigns. They will be a curious and valuable acquiſition to the hiſtory of Anatomy.

---

* This collection makes one large and thick folio, in old Morocco binding, with the following inſcription, printed in gold capitals, on each ſide of the cover,

DISEGNI DI LEONARDO DA VINCI
RESTAVRATI DA POMPEIO LEONI.

which authenticates the collection; for, in a note upon the life of Leonardo, Du Pile tells us, from a latin manuſcript of Rubens, then in his hands, among other things, what follows, "Rubens enlarges on Leonardo's ſkill in Anatomy. He adds a particular "relation of his ſtudies, and of all the deſigns which he made, which Rubens had "ſeen among the curioſities of Pompeio Leoni, at Arezzo, who had all his deſigns."

In the beginning of the ſixteenth century, Achillinus and Benedictus, but particularly Berengarius and Maſſa followed out the improvement of Anatomy in Italy, where they taught it, and publiſhed upon the ſubject*. Theſe firſt improvers made ſome diſcoveries from their own diſſections: but it is not ſurprizing that they ſhould have been diffident of themſelves, and have followed Galen almoſt blindly, when his authority had been ſo long eſtabliſhed, and when the enthuſiaſm for Greek authors was riſing to ſuch a pitch.

Soon after this, we may ſay about the year 1540, the great Veſalius appeared. He was ſtudious, laborious, and ambitious. From Bruſſels, the place of his birth, he went to Louvain, and thence to Paris, where Anatomy was not yet making a conſiderable figure; and then to Louvain to teach, from which place, very fortunately for his reputation, he was called to Italy, where he met with every opportunity that ſuch a genius for Anatomy could deſire, that is, books, ſubjects, and excellent draughtſmen. He was equally laborious in reading the ancients, and in diſſecting bodies. And in making the compariſon, he could not but ſee, that there was great room for improvement, and that many of Galen's deſcriptions were erroneous. When he was but a young man, he publiſhed a noble ſyſtem of Anatomy, illuſtrated with a great number of elegant figures.

---

* Corteſius, who muſt have been well informed of the ſtate of Anatomy in Italy, gives Bolognia the honour of reviving and improving Anatomy, firſt by Mundinus, and then by Berengarius; both profeſſors there, both diſſectors of human bodies, and both authors, as he eſteems them, of the firſt claſs.

In this work he found ſo many occaſions of correcting Galen, that his contemporaries, partial to antiquity, and jealous of his reputation, complained that he carried his turn for improvement and criticiſms to licentiouſneſs. The ſpirit of oppoſition and emulation was preſently rouzed; and Sylvius in France, Columbus, Fallopius, and Euſtachius in Italy, who were all in high anatomical reputation about the middle of this ſixteenth century, endeavoured to defend Galen, at the expence of Veſalius. In their diſputes they made their appeals to the human body: and thus in a few years our art was greatly improved. And Veſalius being detected in the very fault which he condemns in Galen, to wit, deſcribing from the diſſections of brutes, and not of the human body, it expoſed ſo fully, that blunder of the older Anatomiſts, that in ſucceeding times there has been little reaſon for ſuch complaint.

From the time of Veſalius, the ſtudy of Anatomy gradually diffuſed itſelf over Europe; inſomuch that for the laſt hundred years it has been daily improving by the labour of a number of profeſſed Anatomiſts, almoſt in every country of Europe.

We may form a judgement about the ſtate of Anatomy, even in Italy, in the beginning of the ſeventeenth century, from the information of Corteſius. He had been profeſſor of Anatomy at Bologna, and was then profeſſor of medicine at Meſſana; where, though he had a great deſire to improve himſelf in the art, and to finiſh a treatiſe which he had begun on practical Anatomy, in twenty-four years he could, *twice only*, procure an opportunity of diſſecting a human body, and then it was with difficulties and in hurry; whereas, he had expected to have done ſo, he ſays, *once every year, according to the cuſtom in the famous academies of Italy.*

In the very end of the ſixteenth century, our great Harvey, as was the cuſtom of the times, went to Italy to ſtudy medicine; for Italy was ſtill the favourite ſeat of the arts; and in the very beginning of the ſeventeenth century, ſoon after Harvey's return to England, his maſter in Anatomy, Fabricius ab Aquapendente, publiſhed an account of the valves in the veins, which he had diſcovered many years before, and no doubt taught in his lectures when Harvey attended them.

This diſcovery evidently affected the eſtabliſhed doctrine of all ages, that the veins carried the blood from the liver to all parts of the body for nouriſhment. It ſet Harvey to work upon the uſe of the heart and vaſcular ſyſtems in animals; and in the courſe of ſome years, he was ſo happy as to diſcover, and to prove beyond all poſſibility of doubt, the *circulation of the blood.* He taught his new doctrine, in his lectures, about the year 1616, and printed it in 1628.

It was by far the moſt important ſtep that has been made, in the knowledge of animal bodies, in any age. It not only reflected uſeful lights upon what had been already found out in Anatomy, but alſo pointed out the means of further inveſtigation. And, accordingly we ſee, that from Harvey to the preſent time, Anatomy has been ſo much improved, that we may reaſonably queſtion if the ancients have been further outdone by the moderns, in any other branch of knowledge. From one day to another there has been a conſtant ſucceſſion of diſcoveries, relating either to the ſtructure, or functions of our body; and new anatomical proceſſes, both of inveſtigation and demonſtration, have been daily invented. Many parts of the body, which were not known in Harvey's time, have ſince then, been brought to light: and of thoſe which were known, the internal compoſition and functions remained unexplained; and indeed muſt have remained unexplicable, without the knowledge of the circulation.

Now that ſo much has been ſaid of this diſcovery, and of its author, I may venture to make an obſervation or two, which otherwiſe might have appeared invidious. Dr. Harvey, as appears by his writings, was certainly a firſt rate genius for ſagacity and application: and his name is deſervedly immortal, on account of the many obſervations and improvements he made in Anatomy and Phyſiology. But in this, where he has acquired the moſt diſtinguiſhed honours, I could almoſt think him entitled to the leaſt. For, the ſingular ſtructure of the parts concerned in the circulation, to wit, the heart, arteries, and veins, and the obvious phænomena in bleeding animals to death, the different effects of ligatures on different veſſels, the practice of ſurgery, with regard to bleedings and blood-veſſels, the action of the heart when expoſed to view in living bodies, all theſe, I ſay, ſo evidently proclaim the circulation, that there ſeems to have been nothing more required for making the diſcovery, than laying aſide groſs prejudices, and conſidering fairly ſome obvious truths.

It is the more amazing that this diſcovery was left for Harvey, when we conſider, that he was near an hundred years after Veſalius, in which interval many great men had appeared; and anatomical ſchools had flouriſhed, in many different parts of Europe. And, what is ſtill more aſtoniſhing, Servetus firſt, and Columbus afterwards, both in the times of Veſalius, had clearly given the circulation of the blood, through the lungs, which we may reckon, at leaſt, three quarters of the diſcovery; and Cæſalpinus had, many years before Harvey, publiſhed in three different works, all that was wanting in Servetus to make the circulation quite complete. But Providence meant to reſerve this honour for Harvey, and would not let men ſee what was before them, nor underſtand what they read.

Theſe reflexions on Harvey's diſcovery, having been miſunderſtood, or miſrepreſented, it may not be impertinent to examine the merit and circumſtances of this, and ſome of the more important inventions.

Dr. Harvey's diſcovery has been commonly and juſtly ſaid to have given him *immortality*; and accordingly he is often called the *immortal* Harvey. Thence, ſome uninformed perſons, have been weak enough to ſuppoſe, that, in himſelf, he was ſomething almoſt above a mortal; and that treating him as a very fortunate and reſpectable man only, ſhould be proclaimed invidious or malicious diſreſpect to a moſt exalted character.

Some of the moſt important diſcoveries, made probably by chance, ſeem to have been made before, perhaps long before the invention of writing; and thence it may have happened that hiſtorians have given no account of them, as having been the happy invention of ſome individual, or, as having been at firſt peculiar to ſome particular people; but, they have paſſed as things obvious to common ſenſe, and have been, time immemorial, as univerſally diffuſed among mankind.

Such is the *working* of the *ore* into malleable iron; an art which muſt have been diſcovered by ſome happy accident in ſome one part of our hemiſphere, and by degrees communicated to the whole; hence, at all known times, practiſed in part of Aſia, Africa, and Europe. Yet it is an art of ſuch difficult inveſtigation, that in America it was never found out from the beginning of the world. It was communicated to the inhabitants of that hemiſphere, by the Europeans, in very late times, and to this hour is unknown to the South-Sea Iſlanders.

The ſame may be ſaid of the invention of letters, or writing; with this great difference however, that writing, in its gradation from ſomething natural and hieroglyphic, to arbitrary marks or letters, would naturally occur to ingenious and thinking men.

Some of the moſt ſplendid and uſeful of more modern inventions and diſcoveries, are hardly to be traced to their firſt authors; ſuch as, magnifying-glaſſes, gunpowder, and the compaſs; which is not to be accounted for ſo well as by ſuppoſing, that there had been ſuch participation, ſuch mutual aſſiſtance given and received, that no one man could boaſt of having a fair claim to the whole. And of theſe it is to be obſerved likewiſe, that after their firſt happy introduction, great improvements, and a variety of uſeful applications have been daily invented.

The bleſſed art of printing, from which mankind have received ſo much benefit, eſpecially by rendering all kinds of learning an eaſy acquiſition, was made out by ſuch gradual ſteps, that it is difficult to ſay who was the inventor. Stamps

for

for cards, for little images, and pictures, eſpecially of the religious kind, with the names of ſaints, and little excerpts from Scripture, and then little books, cut in blocks of wood, were printed by different people, in Italy, Germany, and Holland, long before Fuſt invented movable types, caſt in metal. Of this laſt invention, it is very remarkable, that in the ſpace of a very few years, it was brought almoſt to the higheſt ſtate of perfection which it has yet attained.

The authors of the three great diſcoveries in later times, and all the circumſtances, are well known; I mean, the diſcovery of the weſtern hemiſphere by Columbus; of the true ſolar ſyſtem by Copernicus; and of the circulation by Harvey. All theſe three men have equally acquired immortality; but they have not had, nor deſerved, an equal degree of honour and credit. Honour is acquired only by merit; immortality, by any thing very ſtriking or intereſting to mankind, whether meritorious, or flagitious, or accidental and neutral. The mad ruffian who aſſaſſinated Henry, acquired immortality as well as Henry: but he had no merit, and has had no honour annexed to his immortality.

Of theſe three diſcoverers, Columbus ſtands foremoſt in merit; indeed he is beyond compariſon. His object was the greateſt, among worldly things, that ever employed the human mind. It was a new ſubject, and entirely his own. His ſagacious and comprehenſive mind graſped an unſeen world, with ſuch firmneſs, that nothing could prevail upon him to let go his hold: and in executing his plan for finding and taking poſſeſſion of it, he exerciſed the nobleſt virtues of human nature; courage, perſevering reſolution, patient hope, humanity to his ſellow-creatures, and a dependence on the will of heaven, to a degree perhaps beyond any example in the hiſtory of mankind.

Next to Columbus, with regard to merit, we muſt place Copernicus. His ſubject was ſplendid and great, almoſt beyond the limits of human comprehenſion. But, it was not entirely his own, or new. Some advances had been made by other aſtronomers, to invite and direct him to the great truth which he made out; which, however, could not be made out, but by the application of very acute intellectual powers.

In merit, Harvey's rank muſt be comparatively low indeed. So much had been diſcovered by others, that little more was left for him to do, than to dreſs it up into a ſyſtem; and *that*, every judge in ſuch matters will allow, required no extraordinary talents. Yet, eaſy as it was, it made him *immortal.* But none of his writings ſhew him to have been a man of uncommon abilities. It were eaſy to quote many paſſages, which bring him nearly to a level with the reſt of mankind. He lived almoſt thirty years after Aſellius publiſhed the Lacteals, yet, to the laſt, ſeemed moſt inclined to think, that no ſuch veſſels exiſted. Thirty hours at any time, ſhould have been ſufficient to remove all his doubts. But this ſubject, taken up in ſelf-defence, grows unpleaſant.

Harvey's doctrine, at firſt, met with conſiderable oppoſition. But in the ſpace of about twenty years, it was ſo generally and ſo warmly embraced, that it was imagined every thing in phyſic would be explained. But time and experience have taught us, that we ſtill are, and probably muſt long continue to be, very ignorant, and that in the ſtudy of the human body, and of its diſeaſes, there will always be an extenſive field for the exerciſe of ſagacity.

After the diſcovery and knowledge of the circulation of the blood, the next queſtion would naturally have been, about the paſſage and route of the nutritious part of the food, or chyle, from the bowels to the blood-veſſels. And, by good fortune, in a few years after Harvey had made his diſcovery, Aſellius, an Italian phyſician, found out the lacteals, or veſſels, which carry the chyle from the inteſtines; and printed his account of them, with coloured prints, in the year 1627, the very year before Harvey's book came out.

For a number of years after theſe two publications, the Anatomiſts in all parts of Europe, were daily opening living dogs, either to ſee the lacteals, or to obſerve the phænomena of the circulation. In making an experiment of this kind, Pecquet in France, was fortunate enough to diſcover the thoracic duct, or common trunk of all the lacteals, which conveys the chyle into the ſubclavian vein. He printed his diſcovery in the year 1651. And now the lacteals having been traced from the inteſtines to the thoracic duct, and that duct having been traced to its termination in a blood-veſſel, the paſſage of the chyle was completely made out.

The ſame practice of opening living animals, furniſhed occaſions of diſcovering the lymphatic veſſels. This good fortune fell to the lot of Rudbec firſt, a young Swediſh Anatomiſt, and then to Thomas Bartholine, a Daniſh Anatomiſt, who was the firſt who appeared in print upon the lymphatics. His book came out in the year 1653, that is, two years after that of Pecquet. And then it was very evident that they had been ſeen before, by Dr. Higmore, and others, who had miſtaken them for lacteals. But none of the Anatomiſts of thoſe times, could make out the origin of the lymphatics, and none of the Phyſiologiſts could give a ſatisfactory account of their uſe.

The circulation of the blood, and the paſſage of the chyle, having been ſatisfactorily traced out in full grown animals, the Anatomiſts were naturally led next to conſider, how theſe animal proceſſes were carried on in the child, while in the womb of the mother. Accordingly the male and female organs, the appearances and contents of the pregnant uterus, the incubated egg, and every phænomenon which could illuſtrate generation, became the favourite ſubject for about thirty years, with the principal Anatomiſts of Europe.

Thus it would appear to have been in theory: but in fact, I rather believe, that as Harvey's maſter, Fabritius, laid the foundation for the diſcovery of the circulation of the blood, by teaching him the valves of the veins, and thereby inviting him to conſider that ſubject, ſo Fabritius, by his lectures, and by his elegant work, *de formato fœtu, & de formatione ovi & pulli,* probably made that likewiſe a favourite ſubject with Dr. Harvey. But whether he took up the ſubject of generation, in conſequence of his diſcovery of the circulation, or was led to it, by his honoured maſter Fabritius, he ſpent a great deal of his time in the enquiry; and publiſhed his obſervations, in a book *de generatione animalium,* in the year 1651, that is, ſix years before his death.

In a ſew years after this, Swammerdam, Van Horn, Steno, and De Graaf, excited great attention to the ſubject of generation, by their ſuppoſed diſcovery that the females of viviparous animals have ovaria, that is, cluſters of eggs in their loins, like oviparous animals; which, when impregnated by the male, are conveyed into the uterus: ſo that a child is produced from an egg, as well as a chick; with this difference, that one is hatched within, and the other without the body of the mother.

Malpighi, a great Italian genius, ſome time after, made conſiderable advances upon the ſubject of generation. He had the good fortune to be the firſt who uſed magnifying-glaſſes with addreſs, in tracing the firſt appearances in the formation of animals. He likewiſe made many other obſervations and improvements in the *minutiæ* of Anatomy, by his microſcopical labours; and by cultivating comparative Anatomy.

This diſtinguiſhed Anatomiſt gave the firſt public ſpecimen of his abilities, by printing a diſſertation on the lungs, Anno 1661; a period ſo remarkable for the ſtudy of nature, that it would be injuſtice to paſs it, without particular notice.

The Italians, who gave not only eloquence, and the other fine arts, but ſcience to the reſt of Europe, were riſing upwards from barbarity and ignorance, about the middle of the fifteenth century. They had then had Dante, Petrarch, Boccace, Emmanuel Chryſoloras, Leonard Aretin, Poggius, Philelphus, and ſeveral other learned men: but the number was only ſufficient to raiſe an appetite in the nation for Greek learning, till Conſtantinople was ſacked in the year 1453, which makes the beginning of the firſt great revolution in the learning of modern times; viz. the revival of the Greek, and great improvement in the ſtudy of the Latin language.

In the courſe of the next hundred years, theſe improvements were advanced to the higheſt perfection, and ſpread very generally over Europe. In every country were found ſome of the beſt ſcholars in the dead languages, that have appeared ſince the decline of the Roman empire. Phyſic and Anatomy were then reſtored to the beſt condition to which the ſtudy of Greek authors could bring them. In conſequence of which, the Arabians began to be conſulted only as commentators on Hippocrates, Ariſtotle, and Galen. All later writers were degraded with the appellation of barbarians, and ſunk gradually in the eſteem of the world, in proportion as the Greek language became more generally underſtood, and as their beſt writers both in the original dreſs, and in good tranſlations, were multiplied by printing.

In the next hundred years, the Italians finding their own ſtrength, the natural conſequence of cultivating the human mind, ventured upon the more arduous undertaking of improving upon the Greeks themſelves. This began with Veſalius, about the middle of the ſixteenth century. And from that time, in the ſubſequent hundred years, the circulation of the blood, and many other important doctrines, unknown to the ancients, had been ſo generally adopted, and diffuſed over Europe, that the learning of the Greeks in natural knowledge, was allowed to be imperfect; and men of a more acute and aſpiring caſt of mind, after having gone through their ſchool education, were prompted to look with their own eyes into every part of nature.

It was at this happy time that Malpighi came forth, the great period for the ſtudy of all natural things. At this time the Academy del Cimento aroſe in Italy, the Royal Society in London, and the Royal Academy in Paris. And from that time, the important doctrine of rejecting all hypotheſis, or general knowledge, till a ſufficient number of facts ſhall have been aſcertained, by careful obſervation, and judicious experiments, has been, every day, growing into more credit. That doctrine was the ſource of Sir Iſaac Newton's, and of all the improvements which have been made ſince the middle of the ſeventeenth century.

Here it may be uſeful, as well as entertaining to obſerve that novelties, and improvement of courſe, have always become ſubjects of emulation and contention, between young men, and the old. In the exerciſe of the mind, as well as of the body, young men are quick, eager, ambitious of being diſtinguiſhed, and often raſh. In adopting a new opinion, they have not to ſtruggle with the habitual influence of a contrary opinion, to which they have long adapted all their other reaſonings. Young men have likewiſe, very commonly, no diſlike to pull down the magiſterial dictates of age; and old men can ſeldom bear, what they think an inverſion of the natural order of things, that youth ſhould inſtruct age. Of all men, teachers of every kind, bear this with the leaſt patience. For that reaſon, we ſee in fact, that the ſeniors of ſchools, colleges and univerſities, have generally been the moſt obſtinate in ſhutting out light, and claiming a birth-right for opinion, as for property.

A little reflexion into human nature, will ſhew, that vanity is the principal ſource of this abſurdity. All men wiſh to be reſpectable; and moſt of them carry about with them, through life, what they think a ſecret, and yet what very few of them can conceal, a conſtant endeavour to paſs in the world, for what they are not; for being more acute, more judicious, more ſtudious and learned, than they really are. Thence, profeſſors, enjoying the admiration of their young pupils, aſſume a decided and dictatorial character, affecting to have gone to the bottom of every thing, and to have overcome every difficulty, either by the natural powers of the mind, or by ſeverity of ſtudy and perſeverance in the purſuit of knowledge. Under the influence of this paſſion, they are mingling ſelf-applauſe with every doctrine which they teach. It is eaſy to ſee, that ſuch men will reſiſt new doctrines with more obſtinacy than the reſt of mankind, perhaps with inveteracy, in proportion as the doctrines are well founded. They will be ſenſible that all their ſcholars who embrace the new opinion, will call to mind, many looks of importance, and expreſſions of vanity, which muſt now appear truely ridiculous.

But thoſe few teachers, who have had moderation enough to wiſh for that reſpect only which they really deſerved, have had the ſatisfaction of knowing, that they could not be reduced to that humiliating ſituation, becauſe when they had doubts they avowed them; where truth lay beyond their reach, they confeſſed their ignorance, with a decent and becoming ſenſe of the imperfections of human nature. Such men will always be ready to receive inſtruction, and to embrace truth, from whatever quarter it may be preſented.

What Malpighi ſays, of the efforts made to reſiſt his firſt new doctrines, is ſo much to our purpoſe, that we muſt give the ſubſtance of it in a few words. Op. Poſth. p. 20, 21. "In the mean time, ſays he, contentions being raiſed among ſtudious men, eſpecially the younger, both theoretical and practical, and the new doctrines growing daily into more credit, the ſenior profeſſors were inflamed to ſuch a pitch, that in order to root out heretical innovations in philoſophy and phyſic, they endeavoured to paſs a law, whereby every graduate ſhould be obliged to take the following additional clauſe, to his ſolemn oath on taking his degree; viz. You ſhall likewiſe ſwear, that you will preſerve and defend, the doctrine taught in the univerſity of Bononia, viz. that of Hippocrates, Ariſtotle, and Galen, which has now been approved of for ſo many ages; and that you will not permit their principles and concluſions, to be overturned by any perſon, as far as in you lies.—*pro toto tui poſſe* is the expreſſion. But, ſays our author, this was dropt, and the liberty of philoſophizing with freedom remains to this day."

In the microſcopic part of Anatomy, he was well ſeconded by Leeuwenhock of Holland. They took up Anatomy where others had dropt it, and, by this new art, brought a number of amazing things to light. They diſcovered the red globules of the blood; they were enabled to ſee the actual circulation of the blood, in the tranſparent parts of living animals, and could meaſure the velocity of its motion; they diſcovered that the arteries and veins had no intermediate cells or ſpungy ſubſtance, as Harvey and all the preceding Anatomiſts had ſuppoſed, but communicated one with the other, by a continuation of the ſame tube.

Leeuwenhock was in great ſame likewiſe, for his diſcovery of the animalcula in the ſemen. Indeed there was ſcarcely a part of the body, ſolid or fluid, which eſcaped his examination; and he almoſt every where found, that what appeared to the naked eye, to be rude, undigeſted matter, was in reality a beautiful and regular compound.

In the latter part of the laſt century, Anatomy made two great ſteps, by the invention of injections, and the method of making what we commonly call preparations. Theſe two modern arts have really been of infinite uſe to Anatomy; and beſides have introduced an elegance into our adminiſtrations, which in former times could not have been ſuppoſed to be poſſible. They aroſe in Holland under Swammerdam and Ruyſch, and afterwards in England under Cowper, St. Andre, and others, where they have been greatly improved. And from England, they are of late years ſpreading to all parts of the Britiſh dominions, to France, Italy, and other parts of Europe. I ſay *from England,* becauſe the arts of making fine injections, and preparations, ſeem to have been almoſt peculiar to Holland and England; and, the Anatomiſts, who have excelled in that way, have generally made a ſecret of their methods and improvements; till within the laſt thirty years, when all theſe arts have been conſtantly taught in public courſes of Anatomy here.

Were the great Harvey to riſe from his grave, to examine what has been done ſince his time, I imagine that nothing would give him more pleaſure, than to view with attention, the cabinets of ſome of the Anatomiſts of the preſent times. He, and the Anatomiſts of former ages, had no other knowledge of the blood-veſſels, than what they were able to collect from laborious diſſections, and from examining the ſmaller branches of them, upon ſome lucky occaſion, when they were found more than commonly loaded with red blood. But filling the vaſcular ſyſtem with a bright coloured wax, enables us to trace the large veſſels with great eaſe, renders the ſmaller much more conſpicuous, and makes thouſands of the very minute ones viſible, which from their delicacy, and the tranſparency of their natural contents, are otherwiſe imperceptible.

The modern art of corroding the fleſhy parts with a *menſtruum*, and of leaving the moulded wax entire, is ſo exceedingly uſeful, and at the ſame time ſo ornamental, that it does great honour to the ingenious inventor, Dr. Nicholls.

The wax-work art of the moderns, might deſerve notice in any hiſtory of Anatomy, if the maſters in that way, had not been ſo careleſs in their imitation. Many of the wax-figures which I have ſeen, are ſo tawdry, with a ſhew of unnatural colours, and ſo very incorrect in the circumſtances of figure, ſituation, and the like, that, though they ſtrike a vulgar eye with admiration, they muſt appear ridiculous to an Anatomiſt. But thoſe figures which are caſt in wax, plaiſter, or lead, from the real ſubject, and which of late years have been frequently made here, are, of courſe, very correct in all the principal parts, and may be conſidered as no inſignificant acquiſition to modern Anatomy. The proper, or principal uſe of this art, is, to preſerve a very perfect likeneſs of ſuch ſubjects as we but ſeldom can meet with, or cannot well preſerve in a natural ſtate; a ſubject in pregnancy, for example.

The modern improved methods of preſerving animal bodies, or parts of them, has been of the greateſt ſervice to Anatomy; eſpecially in ſaving the time and labour of the Anatomiſt, in the nicer diſſections of the ſmall parts of the body. For now, whatever he has prepared with care, he can preſerve; and the object is ready to be ſeen at any time. And, in the ſame manner he can preſerve anatomical curioſities, or rarities of every kind; ſuch as, parts that are uncommonly formed; parts that are diſeaſed; the parts of the pregnant uterus and its contents. Large collections of ſuch curioſities, which modern Anatomiſts are ſtriving, almoſt every where to procure, are of infinite ſervice to the art; eſpecially in the hands of teachers. They give ſtudents clear ideas about many things, which it is very eſſential to know, and yet which it is impoſſible that a teacher ſhould be able to ſhew otherwiſe, were he ever ſo well ſupplied with freſh ſubjects.

The Anatomiſts of this century have improved Anatomy, and have made the ſtudy of it much more eaſy, by giving us more correct as well as more numerous figures. It is amazing to think of what has been done in that time. We have had four large folio books of figures of the bones, viz. Cheſelden's, Albinus's, Sue's, and Trew's; beſides one which was long expected from my old maſter and friend, Dr. James Douglas, and, which I wiſh very much to have time to publiſh, as the plates are all in my poſſeſſion. Of the muſcles, we have had two large folios, one from Cowper, which is elegant, and one from Albinus, which, from the accuracy and labour of the work, we may ſuppoſe will never be matched or outdone. Of the blood-veſſels we have a large folio from Dr. Haller. We have been in expectation of having one upon the nerves from Dr. Meckel. We have had Albinus's, Roederer's, and Jenty's upon the pregnant uterus; and within theſe two years, as moſt of you know, one has been publiſhed here, which is allowed to be inferior to no book of Anatomy; whether we conſider the accuracy with which the natural appearances are repreſented, or the elegance both of the engravings and of the preſs-work. But it would be endleſs to mention the anatomical figures that have been publiſhed in this century, of particular and ſmaller parts of the body, by Morgagni, Ruyſch, Valſalva, Sanctorini, Heiſter, Vater, Cant, Zinn, Meckel, Zimmerman, Walther, Haller, and two or three hundred more.

In our own times, after ſchools of Anatomy have long flouriſhed in all the civilized nations of Europe, and when from the number of men who have been employed in ſuch reſearches, it might have been imagined that diſcoveries were exhauſted, Providence has allowed me a greater ſhare of that ſort of honour which is generally given to diſcoverers, than I could have expected.

I think I have proved, that the lymphatic veſſels are the abſorbing veſſels, all over the body; that they are the ſame as the lacteals; and that theſe altogether, with the thoracic duct, conſtitute one great and general ſyſtem, diſperſed through the whole body for abſorption; that this ſyſtem *only* does abſorb, and not the veins; that it ſerves to take up, and convey, whatever is to make, or to be mixed with the blood, from the ſkin, from the inteſtinal canal, and from all the internal cavities or ſurfaces whatever. This diſcovery gains credit daily, both at home and abroad, to ſuch a degree, that I believe we may now ſay, that it is almoſt univerſally adopted: and, if we miſtake not, in a proper time, it will be allowed to be the greateſt diſcovery, both in phyſiology and in pathology, that Anatomy has ſuggeſted, ſince the diſcovery of the circulation.

Having ventured to throw out ſo bold a propoſition, that my credit may not ſuffer through want of a little reflexion upon the ſubject, I muſt aſk leave to explain my opinion. The diſcovery of a particular fact, with regard only to a particular organ in the body; ſuch as, the duct of a gland; or, the uſe of a gland; an undeſcribed muſcle, or artery, or vein; or any new organ found out or explained; all ſuch diſcoveries are certainly trifling, when compared with the introduction of a new general ſyſtem, which is interwoven with, and performs a peculiar and important function in every part of the body; ſo important indeed, that it was neceſſary, and accordingly has ſince been actually found out, in brutes likewiſe, in birds, and in fiſh. Such is the diſcovery of the abſorbing ſyſtem: and every perſon, who is really an Anatomiſt, or Phyſiologiſt, will, upon a little reflexion, admit what has been advanced; and, looking over the whole progreſs of Anatomy, he will allow, that ſince the days of Ariſtotle, there have been only two great inventions in the phyſiology of our bodies; to wit, the circulation of the blood, and the abſorbent ſyſtem. And, were we to draw a parallel, with regard to the circumſtances of theſe two diſcoveries, they would be found more ſimilar than could have been expected: at preſent I ſhall only obſerve, that however important I think the diſcovery of the true uſe of the abſorbent ſyſtem, I never thought the author entitled to much honour, for having made out (as I ſaid of the circulation) what was obvious to any perſon, who would but think upon the ſubject without prejudice.

The Anatomiſts of all Europe, for a hundred years, in the moſt improved ſtate of our art, from all their enquiries were of opinion, that the lymphatic ſyſtem was wanting in birds and fiſhes. But having found out the importance of th abſorbent ſyſtem in man, and in all quadrupeds, we could not reſt ſatisfied, that it was wanting in the other two great claſſes of animals; and kept that object, and every thing that could throw light upon the abſorbent ſyſtem, conſtantly in view.

Accordingly, my brother, Mr. John Hunter, whom I bred to practical Anatomy, and who worked for me, and attended my diſſecting-room, and read ſome lectures for me many years, found ſome lymphatics, firſt in birds, and then in a crocodile.

Next, Mr. Hewſon, whom I firſt bred to Anatomy, and then took into my houſe to work for me, and under my direction, in practical Anatomy, to attend my diſſecting-room, and read ſome lectures as my partner, which he did for a number of years; Mr. Hewſon, I ſay, by a continued courſe of obſervations and experiments made in this houſe*, diſcovered and fully demonſtrated the lymphatics and lacteals, both in birds and fiſhes: which confirmed the uſe and importance of the abſorbent ſyſtem in the human body; and in comparative Anatomy was one of the greateſt improvements that could have been made, to eſtabliſh the univerſality of nature's laws in animal bodies.

---

* In Dr. HUNTER's diſſecting-rooms in Windmill-Street.

And, laſt of all, Mr. Cruikſhank, whom I likewiſe bred to Anatomy, and took into my houſe upon the ſame plan, with the opportunities which he has had in this place, and by being particularly attentive to the lymphatic ſyſtem, at my deſire, has traced the ramifications of that ſyſtem in almoſt every part of the body; and from his diſſections, figures have been made, which, with what I had before, will enable us to publiſh (we hope, in a little time) a full account of the whole ſyſtem, illuſtrated by accurate engravings*.

The gravid uterus is a ſubject likewiſe, which has afforded me opportunities of making conſiderable improvements; particularly one very important diſcovery; viz. that the internal membrane of the *uterus*, which I have named *decidua*, conſtitutes the exterior part of the *ſecundines*, or after-birth; and ſeparates from the reſt of the *uterus* every time that a woman either bears a child or ſuffers a miſcarriage. This diſcovery includes another, to wit, that the placenta is partly made up of an excreſcence or efflorеſcence from the *uterus* itſelf.

Theſe diſcoveries are of the utmoſt conſequence, both in the phyſiological queſtion about the connection between the mother and child; and likewiſe in explaining the phænomena of births and abortions, as well as in regulating our practice.

Beſides the more capital improvements above mentioned, I have been fortunate enough to make ſeveral others, not unimportant, with regard eſpecially to diſeaſes; which, as they occur in the courſe of lectures, you will ſee, have had conſiderable influence in improving phyſic, ſurgery, and midwifery.

---

* It is hoped that the public may ſtill have this work laid before them.

You will ſee that even new diſeaſes (ſuch as, the varicoſe aneuryſm, and the retroverted uterus) have been made out, and a proper and ſucceſsful treatment recommended; by which ſeveral lives have been already ſaved, in caſes which, otherwiſe, *muſt* have proved fatal.

This affords me an heart-felt comfort, now, when years and reflexion have given me the cleareſt view of the uncertainty, the ſhortneſs, and the miſeries of human life. I ſincerely pray that a great number of you may enjoy ſuch a comfort in the cloſe of life; when, I am certain, the moſt diligent, the moſt conſcientious, and the moſt humane, among you all, will moſt ardently wiſh, that you could have done ſtill more ſervice to the cauſe of your poor diſtreſſed fellow-creatures.

To conclude: the hiſtory of Anatomy ſhould ſtimulate us all to cultivate it with diligence; when we ſee, that Anatomiſts, in all ages, have made uſeful diſcoveries, and in conſequence thereof, have enjoyed the advantages of reputation in their profeſſion; and when we ſee that the ſubject is ſtill ſo far from being exhauſted, that it is to this day, and muſt be to the end of time, new, entertaining, uſeful, and inexhauſtible.

END OF LECTURE I.

LECTURE II.

ASTRONOMY and Anatomy, as Fontenelle obſerves, are the ſtudies which preſent us with the moſt ſtriking view of the two greateſt attributes of the Supreme Being. The firſt of theſe fills the mind with the idea of his immenſity, in the largeneſs, diſtances, and number of the heavenly bodies; the laſt, aſtoniſhes with his intelligence, and art, in the variety and delicacy of animal mechaniſm.

The human body has been, commonly enough known, by the name of microcoſmus; as if it did not differ ſo much from the univerſal ſyſtem of nature, in the ſymmetry and number of its parts, as in their ſize.

Galen's excellent treatiſe of the uſe of the parts, was compoſed as a proſe hymn to the Creator; and abounds with as irreſiſtible proofs of a ſupreme Cauſe, and governing Providence, as we find in modern phyſico-theology. And Cicero dwells more on the ſtructure and œconomy of animals, than on all the productions of nature beſides, when he wants to prove the exiſtence of the gods, from the order and beauty of the univerſe. He there takes a ſurvey of the body of man in a moſt elegant ſynopſis of Anatomy, and concludes thus, "Quibus rebus expoſitis, ſatis docuiſſe videor, hominis na-"tura, quanto omnes anteiret animantes. Ex quo debet "intelligi, nec figuram ſitumque membrorum, nec ingenii "mentiſque vim talem effici potuiſſe fortuna."

The ſatisfaction of mind which ariſes from the ſtudy of Anatomy, and the influence which it muſt naturally have upon our minds as philoſophers, cannot be better conveyed than by the following paſſage from the ſame author; "Quæ "contuens animus, accepit ab his cognitionem deorum, ex "qua oritur pietas: cui conjuncta juſtitia eſt, reliquæque "virtutes: ex quibus vita beata exſiſtit, par et ſimilis deorum, "nulla alia re niſi immortalitate, quæ nihil ad bene vi-"vendum pertinet, cedens cœleſtibus."

It would be endleſs to quote the animated paſſages of this ſort, which are to be found in the phyſicians, philoſophers, and theologiſts, who have conſidered the ſtructure and functions of animals, with a view towards the Creator. It is a view which ſtrikes me, with a moſt awful conviction; and when I ſpeak of it, I feel that I muſt ſpeak from my own ſenſes and obſervation. Who can know and conſider the thouſand evident proofs of the aſtoniſhing art of the Creator, in forming and ſuſtaining an animal body ſuch as ours, without feeling the moſt pleaſing enthuſiaſm? Can we ſeriouſly reflect upon this awful ſubject, without being almoſt loſt in adoration? without longing for another life after this, in which we may be gratified with the higheſt enjoyment, which our faculties and nature ſeem capable of, the ſeeing and comprehending the whole plan of the Creator, in forming the univerſe, and in directing all its operations.

The man who is really an Anatomiſt, yet does not ſee and feel what I have endeavoured to expreſs in words, whatever he may be in other reſpects, muſt certainly labour under a dead palſey, in one part of his mind. Milton could look upon the ſun, at noon, without ſeeing light. There was no apparent defect in his eye, but the nerves of that part were inſenſible.

But, the more immediate purpoſes of Anatomy, concern thoſe who are to be the guardians of health; as this ſtudy is neceſſary to lay a foundation for all the branches of medicine.

The more we know of our fabrick, the more reaſon we have to believe, that if our ſenſes were more acute, and our judgment more enlarged, we ſhould be able to trace many ſprings of life, which are now hidden from us: by the ſame ſagacity we ſhould diſcover the true cauſes and nature of diſeaſes; and thereby be enabled to reſtore the health of many, who are now, from our more confined knowledge, ſaid to labour under incurable diſorders. By ſuch an intimate acquaintance with the œconomy of our bodies, we ſhould diſcover even the ſeeds of diſeaſes; and deſtroy them, before they had taken root in the conſtitution.

This indeed is a pitch of knowledge which we muſt not expect to attain. But ſurely we may go ſome way; and therefore let us endeavour to go as far as we can. And if we conſider, that health and diſeaſe are the oppoſites of each other, there can be no doubt, that the ſtudy of the natural ſtate of the body, which conſtitutes the one, muſt be the direct road to the knowledge of the other.

What has been ſaid of the uſefulneſs of Anatomy in phyſic will only be called in queſtion, by the more illiterate empyrics among phyſicians. They would diſcourage others from the purſuit of knowledge, which they have not themſelves, and which therefore they cannot know the value of; and tell us that a little of Anatomy is enough for a phyſician.

Let us judge of this queſtion, by collecting the opinions of the moſt eminent phyſicians of different countries and ages. If we have recourſe to Hippocrates, Celſus, Galen, Rhazes, Avicenna, Harvey, Pitcairn, Boerhaave, Hoffman, and Mead, we ſhall find that all of them, either wrote upon Anatomy, or taught it.

One of the moſt unexceptionable teſtimonies in our favour, is that of Sydenham; who is allowed, by all parties, to have been a moſt ſagacious obſerver, and a moſt excellent practical phyſician. In his treatiſe *de Hydrope*, he quotes a paſſage from Hippocrates, and then adds, "Attamen [ne vel divinus "hic auctor, erroris ullatenus inſimulatur, vel ex hoc loco "empirici ignorantiæ ſuæ patrocinium quærant] aperte dicam, "me, quantum attentiſſima cogitatione, eaque ad praxin relata, adſequi valeam, utcunque exiſtimare, quod neceſſe omnino ſit, ut medicus ſtructuram humani corporis probe "calleat; quo rectius veras ideas, et naturæ et cauſarum quorundam morborum, animo concipere ac formare queat."

Here you will obſerve, that Sydenham's pen wrote nothing but what his judgment and candour dictated. He does not ſay, *of all*, but *of ſome*; and he might very well have ſaid, *of a great number* of diſeaſes. Some phyſicians, of a different opinion, argue thus, as I have been informed: "The cure

" of diſeaſes, is to be conſidered as a matter of fact and " obſervation; and is not to be found out, or improved, " by diſſecting dead bodies: the bark cures fevers; mercury " cures venereal diſorders; a little oil cures the bite of a " viper; and nothing, yet known, cures the bite of a mad " dog." An argument which draws univerſality from ſome particulars, all logicians will condemn, as inconcluſive. It were juſt as reaſonable to aſſert, that the bark, and mercury are uſeleſs, in the cure of diſeaſes, becauſe the bark does not cure a pox; nor mercury, an intermittent; or, becauſe neither of them cures all diſorders. It is by Anatomy alone, that we know the true nature, and therefore the moſt proper cure of the greateſt number of local diſeaſes.

That Anatomy is the very baſis of ſurgery every body allows. It is diſſection alone that can teach us, where we may cut the living body, with freedom and diſpatch; and where we may venture, with great circumſpection and delicacy; and where we muſt not, upon any account, attempt it. This informs the *head*, gives dexterity to the *hand*, and familiarizes the *heart* with a ſort of neceſſary inhumanity, the uſe of cutting-inſtruments upon our fellow-creatures.

Were it poſſible to doubt of the advantages, which ariſe in Surgery, from the knowledge of Anatomy, we might have ample conviction, by comparing the preſent practice with that of the ancients: and upon tracing the improvements which have been made in later times, they would be found, generally, to have ſprung from a more accurate knowledge of the parts concerned. And if at any time an accident, or ſomething elſe, gave the firſt riſe to an uſeful invention, it was Anatomy that regulated, improved, and eſtabliſhed it.

In the courſe of theſe lectures, both when we examine the parts themſelves, and when we conſider the chirurgical operations we ſhall ſee the ſtrict connection between Anatomy and Surgery: how much the laſt is demonſtrative, clear, and infallible, when it receives the full lights from the former; how uncertain without them. In the hands of a good Anatomiſt, ſurgery is a ſalutary, a divine art; but when practiſed by men who know not the ſtructure of the human body, it often becomes barbarous and criminal.

All that has been now advanced, concerning the uſefulneſs of Anatomy in phyſic and ſurgery, is indeed ſo apparent, ſo demonſtrable, that in our days it is not controverted, by thoſe in the profeſſion who have any pretence to be judges; or any character to give weight to their opinion. But, my duty to you, my ſincere deſire to ſerve the public, obliges me to urge the queſtion much farther. I muſt inſiſt upon it, and will beg of you to believe, that it is not barely a *general* knowledge of Anatomy, that is neceſſary; but the moſt particular, and the moſt accurate, that can be acquired. It is not the common attendance upon a courſe or two of anatomical lectures; but an attentive and perſevering ſtudy; an intimate acquaintance with the practical part while we are in the courſe of education; and alſo, though this be generally neglected, a continued, or frequent exerciſe of the art, as long as we continue in the practice of phyſic or ſurgery.

When we hear any man of the profeſſion, talking of all the knowledge of Anatomy that is neceſſary for a phyſician, and of as much as a ſurgeon needs to know, we cannot but lament the ſingularly hard fortune of his patients; firſt in being ſick, or diſeaſed, and then, in falling under the care of ſo ignorant a counſellor. Who is the man of practice and integrity, that can lay his hand upon his heart, and ſay, that he has not, in ſome caſe or other, had occaſion for all his anatomical knowledge; and who has not wiſhed, at times, that he had been poſſeſſed of more? Who, then, are the men in the profeſſion, that would perſuade ſtudents, that a little of Anatomy is enough for a phyſician, and a little more too much for a ſurgeon? God help them! They have it not themſelves, and are afraid that others ſhould get it.

Many of the old generation among us, and it is to be feared ſome of the younger too, never underſtood Anatomy well enough to know its true value: and beſides, many of them have no way left of preſerving any rank in the profeſſion, but that of undervaluing and ridiculing improvements; they would have young men continue as ignorant as themſelves, that their own wants may eſcape obſervation. But, thank heaven! ſuch arts cannot prevail. Knowledge and improvements gain ground every day; and ignorant men are perpetually ſeen in humiliating ſituations. Men have begun to reaſon more correctly; to exerciſe their own judgment, upon their obſervations; and when that comes to be the caſe generally, there muſt be an end to the deluſion; many doctrines of old phyſicians, and of old women, will meet with proper contempt; the tyranny of empty pomp and myſtery in phyſic, will be driven out of the land, and forced to ſeek ſhelter among leſs cultivated ſocieties of men.

The more clear and perfect our knowledge of every part of the body is, both in its ſound and morbid ſtate, the better we ſhall underſtand the nature, and ſtrength, and tendency, of its diſeaſes. Thence we ſhall more readily and certainly learn to diſcover a diſeaſe in its beginning; to obſtruct its progreſs; to put it under difficulties; to prevent its gaining ſtrength by the acquiſition of auxiliaries; to cut off its ſupplies of neceſſaries; and finally to drive it out.

The compariſon of a phyſician to a general, is both rational and inſtructive. The human body under a diſeaſe, is the country which labours under a civil war or invaſion; the phyſician is, or ſhould be, the dictator and general, who is to take the command, and to direct all the neceſſary operations. To do his duty with full advantage, a general, beſides other acquirements, uſeful in his profeſſion, muſt make himſelf maſter of the *Anatomy* and *Phyſiology*, as we may call it, of the country. He may be ſaid to be maſter of the *Anatomy* of the country, when he knows the figure, dimenſion, ſituation, and connection, of all the principal conſtituent parts; ſuch as, the lakes, rivers, marſhes, mountains, precipices, plains, woods, roads, paſſes, fords, towns, fortifications, &c. By the *Phyſiology* of the country, which he ought likewiſe to underſtand, is meant, all the variety of active influence, which is produced by the inhabitants. If the general be well inſtructed in all theſe points, he will find a hundred occaſions of drawing advantages from them; and without ſuch knowledge, he will be for ever expoſed to ſome fatal blunder.

What contempt would the King of Pruſſia, or Prince Ferdinand entertain, for any officer, who would ſay, that a moderate ſhare of that ſort of knowledge, is ſufficient for a general? The famed retreat of the ten thouſand Greeks from Perſia, would have been eaſily effected, if their leaders had known the country through which they were to paſs: their dangers, diſappointments, and diſtreſſes, aroſe principally from their ignorance of the *Anatomy* of that part of the globe.

The moſt ſpecious argument, which ignorance has been able to ſuggeſt, againſt the uſefulneſs of much anatomical ſtudy, is a piece of mere ſophiſtry; it is, that the exact knowledge of all the parts of our body, in minute detail, cannot be uſeful; ſuch as, that of many little muſcles, and arteries, and veins, and nerves, and little proceſſes or other features of bones, which are deſcribed by anatomical writers. The fact, as here ſtated, is true; but the inference drawn from it, is not juſt. Many Anatomiſts, indeed, have been blameable in this reſpect; they have dwelt upon trifling *minutiæ*, objects adapted to their own minds. All ſenſible ſtudents, muſt have been diſguſted with the common tireſome, and uſeleſs deſcription, of the *ſeparated* bones of the head, and of the preciſe attachment of all the muſcles of the body; they muſt have been ſick of the deſcriptions of the ſmaller branches of blood-veſſels, and of nerves. Men who drudge without comprehenſion, treat thoſe objects in their lectures and writings, with all the ſolemnity and reſpect which is due to uſeful enquiries. Men of more underſtanding muſt deſpiſe them. But let us remember, that when ſuch *unimportant* ſubjects are given up, there are more uſeful facts to be learned in Anatomy, than moſt men can have opportunities of acquiring.

Beſides the knowledge of our body, through all the variety of its *ſtructure* and *operations* in a *ſound* ſtate, it is by Anatomy only that we can arrive at the knowledge of the true nature of moſt of the diſeaſes which afflict humanity. The ſymptoms of many diſorders are often equivocal; and diſeaſes themſelves are thence frequently miſtaken, even by ſenſible, experienced, and attentive phyſicians. But by anatomical examination after death, we can with certainty find out the miſtake, and learn to avoid it, in any ſimilar caſe. Fatal miſtakes of that kind are ſhocking to humanity; but it would be invidious, and even cruel, to expoſe ſuch as I myſelf have known; becauſe it would involve the innocent with the guilty; as in our profeſſion, the beſt are liable to error. It becomes us all to be humble, to confeſs our ignorance, and to encourage every ſtudy that is likely to improve us.

This advantage, which we receive from Anatomy, of finding out the real diſeaſe after death, has been ſo generally adopted by the moderns, that the caſes already publiſhed are almoſt innumerable: Mangetus, Morgagni, indeed many of the beſt modern writings in phyſic are full of them. And if we look among the phyſicians of the beſt character, and obſerve thoſe who have the *art* itſelf, rather than the *craft* of the profeſſion at heart; we ſhall find them conſtantly taking pains to procure leave to examine the bodies of their patients after death; deſirous that it may be done by experienced Anatomiſts (a circumſtance often of the higheſt importance) and unhappy when they cannot procure this opportunity of improving themſelves, and their art.

Were I to gueſs at the moſt probable future improvements in phyſic, I ſhould ſay, that they would ariſe from a more general, and more accurate examination of diſeaſes after death. And were I to place a man of proper talents, in the moſt direct road for becoming truely *great* in his profeſſion, I would chuſe a good practical Anatomiſt, and put him into a large hoſpital to attend the *ſick*, and diſſect the dead.

After having conſidered the riſe, and progreſs of Anatomy; the various diſcoveries that have been made in it, from time to time; the great number of diligent obſervers who have applied themſelves to this art; and the importance of the ſtudy, not only for the prevention and cure of diſeaſes, but in furniſhing the livelieſt proofs of divine wiſdom; the following queſtions ſeem naturally to ariſe. For what purpoſe is there ſuch a variety of parts in the human body? Why ſuch a complication of nice and tender machinery? Why was there not rather a more ſimple, leſs delicate, and leſs expenſive frame?

That beginners in the ſtudy of Anatomy, may acquire a ſatisfactory general idea of their ſubject, we ſhall furniſh them with clear anſwers to all ſuch queſtions. Let us then, in our imagination, *make* a man: in other words, let us ſuppoſe that the *mind*, or immaterial part, is to be placed in a corporeal fabric, to hold a correſpondence with other material beings by the intervention of the body; and then conſider, *a priori*, what will be wanted for her accommodation. In this enquiry, we ſhall plainly ſee the neceſſity, or advantage, and therefore, the *final cauſe* of moſt of the parts, which we actually find in the human body. And if we conſider that, in order to anſwer ſome of the requiſites, human wit and invention would be very inſufficient; we need not be ſurprized, if we meet with ſome parts of the body, whoſe uſe we cannot yet make out, and with ſome operations or functions which we cannot explain. We can ſee, and comprehend, that the whole bears the ſtrongeſt characters of excelling wiſdom and ingenuity: but the imperfect ſenſes and capacity of *man*, cannot pretend to reach every part of a machine, which nothing leſs than the intelligence and power of the *Supreme Being*, could contrive and execute.

To proceed then, in the firſt place, the *mind*, the thinking, immaterial agent, muſt be provided with a place of immediate reſidence; which ſhall have all the requiſites for the union of ſpirit and body; accordingly ſhe is provided with the *brain*, where ſhe dwells as governor and ſuperintendant of the whole fabric.

In the ſecond place, as ſhe is to hold a correſpondence with all the material beings which ſurround her, ſhe muſt be ſupplied with organs fitted to receive the different kinds of impreſſions, that they will make. In fact therefore, we ſee, that ſhe is provided with the organs of ſenſe, as we call them: the eye is adapted to light; the ear, to ſound; the noſe to ſmell; the mouth, to taſte; and the ſkin to touch.

In the third place, ſhe muſt be provided with organs of communication, between herſelf, in the brain, and thoſe organs of ſenſe; to give her information of all the impreſſions that are made upon them: and ſhe muſt have organs between herſelf, in the brain, and every other part of the body, fitted to convey her commands and influence over the whole. For theſe purpoſes the nerves are actually given. They are chords, which riſe from the brain, the immediate reſidence of the mind, and diſperſe themſelves in branches through all parts of the body. They convey all the different kinds of ſenſations to the mind, in the brain; and likewiſe carry out from thence all her commands or influence to the other parts of the body. They are intended to be occaſional monitors, againſt all ſuch impreſſions as might endanger the well-being of the whole, or of any particular part; which vindicates the Creator of all things, in having actually ſubjected us to thoſe many diſagreeable and painful ſenſations which we are expoſed to, from a thouſand accidents in life.

Further, the mind, in this corporeal ſyſtem, muſt be endued with the power of moving from place to place, that ſhe may have intercourſe with a variety of objects; that ſhe may fly from ſuch as are diſagreeable, dangerous, or hurtful, and purſue ſuch as are pleaſant, or uſeful to her. And accordingly, ſhe is furniſhed with limbs, and with muſcles and tendons, the inſtruments of motion, which are found in every part of the fabric, where motion is neceſſary.

But, to ſupport, to give firmneſs and ſhape to the fabric; to keep the ſofter parts in their proper places; to give fixed points for, and the proper direction to its motions; as well as to protect ſome of the more important and tender organs from external injuries; there muſt be ſome firm prop-work interwoven through the whole. And in fact, for ſuch purpoſes the bones are given.

The

The prop-work muſt not be made into one rigid fabric, for that would prevent motion. Therefore there are a number of bones.

Theſe pieces muſt all be firmly bound together, to prevent their diſlocation. And, in fact, this end is perfectly well anſwered by the ligaments.

The extremities of theſe bony pieces, where they move, and rub upon one another, muſt have ſmooth and ſlippery ſurfaces, for eaſy motion. This is moſt happily provided for, by the cartilages and mucus of the joints.

The interſtices of all theſe parts muſt be filled up with ſome ſoft and ductile matter, which ſhall keep them in their places, unite them, and at the ſame time allow them to move a little upon one another. This end is accordingly anſwered by the cellular membrane, or adipoſe ſubſtance.

There muſt be an outward covering over the whole apparatus, both to give it a firm compactneſs, and to defend it from a thouſand injuries; which, in fact, are the very purpoſes of the ſkin, and other integuments.

And, as ſhe is made for ſociety, and intercourſe with beings of her own kind, ſhe muſt be endued with powers of expreſſing and communicating her thoughts, by ſome ſenſible marks or ſigns; which ſhall be both eaſy to herſelf, and admit of great variety. And, accordingly ſhe is provided with the organs and faculty of ſpeech; by which ſhe can throw out ſigns with amazing facility, and vary them without end.

Thus we have built up an animal body which would ſeem to be pretty compleat. But we have not yet made any proviſion for its duration. And, as it is the nature of matter to be altered, and worked upon by matter; ſo, in a very little time, ſuch a living creature muſt be deſtroyed, if there is no proviſion for repairing the injuries which ſhe muſt commit upon herſelf, and the injuries which ſhe muſt be expoſed to from without. Therefore a treaſure of blood is actually provided in the heart and vaſcular ſyſtem, full of nutritious and healing particles, fluid enough to penetrate into the minuteſt parts of the animal; impelled by the heart, and conveyed by the arteries, it waſhes every part, builds up what was broken down, and ſweeps away the old and uſeleſs materials. Hence we ſee the neceſſity, or advantage of the heart and arterial ſyſtem.

What more there was of this blood, than enough to repair the preſent damages of the machine, muſt not be loſt, but ſhould be returned again to the heart: and for this purpoſe the venal ſyſtem is actually provided. Theſe requiſites in the animal, explain, *a priori*, the circulation of the blood.

The old materials which were become uſeleſs, and are ſwept off by the current of blood, muſt be ſeparated and thrown out of the ſyſtem. Therefore glands, the organs of ſecretion, are given, for ſtraining whatever is redundant, vapid, or noxious, from the maſs of blood; and when ſtrained, they are thrown out by emunctories, called excretories.

Now, as the fabric muſt be conſtantly wearing, the reparation muſt be carried on without intermiſſion, and the ſtrainers muſt always be employed. Therefore there is actually a perpetual circulation of the blood, and the ſecretions are always going on.

But even all this proviſion would not be ſufficient; for, that ſtore of blood would ſoon be conſumed, and the fabric would break down, if there were not a proviſion made for freſh ſupplies. Theſe we obſerve, in fact, are profuſely ſcattered round her, in the animal and vegetable kingdoms; and ſhe is provided with hands, the fineſt inſtruments that could have been contrived, for gathering them, and for preparing them in a variety of different ways for the mouth.

Theſe ſupplies, which we call food, muſt be conſiderably changed; they muſt be converted into blood. Therefore ſhe is provided with teeth for cutting and bruiſing the food, and with a ſtomach for melting it down: in ſhort, with all the organs ſubſervient to digeſtion. The finer parts of the aliments only, can be uſeful in the conſtitution: theſe muſt be taken up, and conveyed into the blood, and the dregs muſt be thrown off. With this view the inteſtinal canal is actually given. It ſeparates the nutritious part, which we call chyle, to be conveyed into the blood, by the ſyſtem of abſorbent veſſels; and the fæces paſs downwards, to be conducted out of the body.

Now we have got our animal not only furniſhed with what is wanted for its immediate exiſtence; but alſo, with the powers of ſpinning out that exiſtence, to an indefinite length of time. But its duration, we may preſume, muſt neceſſarily be limited: for as it is nouriſhed, grows, and is raiſed up to its full ſtrength and utmoſt perfection; ſo it muſt, in time, in common with all material beings, begin to decay; and then hurry on to final ruin. Hence we ſee the neceſſity of a ſcheme for renovation. Accordingly wiſe Providence, to perpetuate, as well as preſerve his work, beſides giving a ſtrong appetite for life and ſelf-preſervation, has made animals, male and female, and given them ſuch organs and paſſions, as will ſecure the propagation of the ſpecies, to the end of the world.

Thus we ſee, that by the very imperfect ſurvey, which human reaſon is able to take of this ſubject, the animal man muſt neceſſarily be complex in his corporeal ſyſtem, and in its operations.

He muſt have one great and general ſyſtem, the vaſcular, branching through the whole, for circulation. Another, the nervous, with its appendages, the organs of ſenſe, for every kind of feeling. And, a third, for the union and connection of all thoſe parts,

Beſides theſe primary and general ſyſtems, he requires others, which may be more local or confined; one for ſtrength, ſupport, and protection; the bony compages: another for the requiſite motions of the parts among themſelves, as well as for moving from place to place; the muſcular part of the body: another to prepare nouriſhment for the daily recruit of the body; the digeſtive organs: and one for propagating the ſpecies; the organs of generation.

And, in taking this general ſurvey of what would appear, *a priori*, to be neceſſary for adapting an animal to the ſituations of humanity, we obſerve, with great ſatisfaction, that man is accordingly, in fact, made of ſuch ſyſtems, and for ſuch purpoſes. He has them all; and he has nothing more, except the organs of reſpiration. Breathing we cannot account for *a priori:* we only know that it is, *in fact*, eſſential and neceſſary to life. Notwithſtanding this, when we ſee all the other parts of the body, and their functions, ſo well accounted for; and ſo wiſely adapted to their ſeveral purpoſes, we cannot doubt that reſpiration is ſo likewiſe. And if ever we ſhould be happy enough to find out clearly the object of this function, we ſhall doubtleſs, as clearly ſee, that the organs are wiſely contrived for an important office, as we now ſee the purpoſe and importance of the heart, and vaſcular ſyſtem; which till the circulation of the blood was diſcovered, was wholly concealed from us.

The uſe and neceſſity of all the different ſyſtems in a man's body, is not more apparent, than the wiſdom and contrivance which has been exerted in putting them all into the moſt compact and convenient form; and in diſpoſing them ſo, that they ſhall mutually receive, and give helps to one another; and that all, or many of the parts, ſhall not only anſwer their principal end or purpoſe, but operate ſucceſsfully and uſefully, in many ſecondary ways.

If we underſtand and conſider the whole animal machine in this light, and compare it with any machine, in which human art has exerted its utmoſt, ſuppoſe the beſt conſtructed ſhip that ever was built; we ſhall be convinced, beyond the poſſibility of doubt, that there is intelligence and power, far ſurpaſſing what humanity can boaſt of.

In making ſuch a compariſon, there is a peculiarity and ſuperiority in the natural machine, which cannot eſcape obſervation. It is this: in machines of human contrivance or art, there is no internal power, no principle in the machine itſelf, by which it can alter and accommodate itſelf to any injury which it may ſuffer; or, make up any injury which is reparable. But in the natural machine, the animal body, this is moſt wonderfully provided for, by internal powers in the machine itſelf; many of which are not more certain and obvious in their effects, than they are above all human comprehenſion, as to the manner and means of their operation. Thus, a wound heals up of itſelf; a broken bone is made firm again by a callus; a dead part is ſeparated and thrown off; noxious juices are driven out by ſome of the emunctories; a redundancy is removed by ſome ſpontaneous bleeding; a bleeding naturally ſtops of itſelf; and a great loſs of blood, from any cauſe, is, in ſome meaſure compenſated, by a contracting power in the vaſcular ſyſtem, which accommodates the capacity of the veſſels to the quantity contained. The ſtomach gives information when the ſupplies have been expended; repreſents, with great exactneſs, the quantity and the quality of what is wanted in the preſent ſtate of the machine; and, in proportion as ſhe meets with neglect, riſes in her demand, urges her petition with a louder voice, and with more forceible arguments; for its protection, an animal body reſiſts heat and cold in a very wonderful manner, and preſerves an equal temperature, in a burning and in a freezing atmoſphere.

There is a farther excellence, or ſuperiority in the natural machine, if poſſible, ſtill more aſtoniſhing, more beyond all human comprehenſion, than what we have been ſpeaking of.

Beſides thoſe internal powers of ſelf-preſervation in each individual; when two of them co-operate, or act in concert, they are endued with powers of making other animals, or machines like themſelves; which again are poſſeſſed of the ſame powers of producing others, and ſo of multiplying the ſpecies without end.

Theſe are powers which mock all human invention or imitation. They are characteriſtics of the divine architect.

Having premiſed this general account of our ſubject, we ſhall next conſider the method to be obſerved in ſtudying Anatomy. In order to treat this art diſtinctly, and with perſpicuity, we muſt follow either what is called the analytic, or the ſynthetic method. The analytic, is that of reſolving, or taking down the whole or compound, into its more and more ſimple parts; till at length we come to examine, even the moſt ſimple, uncompounded ingredients. The ſynthetic is the reverſe: in this method we begin with the moſt ſimple, elementary parts; and proceed gradually to the more compound.

As it is in Science, ſo in Anatomy, we might expect that the analytic method ſhould be the moſt fit, in the enquiries which we undertake, with the view of making diſcoveries; and the ſynthetic more proper, when we propoſe to teach. Thus, to uſe a familiar example, ſuppoſe an ignorant man were to try to find out the conſtruction of a watch; he would naturally firſt look carefully upon the whole, and then he would cautiouſly take it to pieces; obſerving the relations that the parts have to one another as he proceeded, till he had reduced it to its moſt ſimple parts. This would be the direct and natural way of finding out the mechaniſm. But if that man were to be taught the conſtruction of a watch, by an artiſt, in order to give him a clearer and more demonſtrative view of the machine, the artiſt would naturally prefer the ſynthetic method; he would begin by explaining the matter, and form, and general uſe of the ſpring, the wheels, and other ſimple parts, then he would proceed to the relations they bear to one another; from the ſimple he would go to the more compound; from ſmall to larger maſſes of machinery; and end with the idea of the whole.

Were the fabric of the human body perfectly underſtood; and were its conſtituent parts as ſimple, and as manageable as thoſe of a watch, we ſhould not heſitate to prefer the ſynthetic method, in a courſe of lectures; and then the demonſtrator might be called a teacher. Accordingly many of the ſyſtematic treatiſes are compoſed upon this plan.

But the ſtructure of an animal body, is hitherto ſo imperfectly underſtood, the machinery ſo infinite, the parts ſo delicate, and their relations to, and influence upon one another ſo incomprehenſible, that with this view of the ſubject, the demonſtrator, as well as the ſtudent, ſhould look upon himſelf in the true and humble light of an enquirer, and follow the method of inveſtigation. And many of our beſt ſyſtems of Anatomy are compoſed in this method. We may obſerve, however, that as ſome parts of the body are better adapted to one method, and ſome to the other, we ſhall make uſe of both occaſionally. And as our time muſt be limited, and fit materials are not always to be had, we ſhall ſometimes be obliged to alter, not only the method, but the more common order likewiſe; and ſo, to anticipate, or poſtpone ſomething, as the circumſtances of our dead bodies may direct.

The ſtudy of the human body is commonly divided into two parts. The firſt, which is called *Anatomy*, relates to the matter and ſtructure of its parts; the ſecond, called *Phyſiology*, and *Animal œconomy*, relates to the principles and laws of its internal operations and functions.

As the body is a compound of ſolids and fluids, *Anatomy* is divided into,

1. The Anatomy of the ſolids, and

2. The Anatomy of the fluids.

The *ſolids*, by which we mean all parts of our body, which are not fluid, are generally divided into two claſſes, viz.

1. The hard ſolids or bones; and that part of Anatomy is called oſteology; which ſignifies the doctrine of the bones.

2. The ſofter ſolids, which part is called ſarcology, viz. the doctrine of fleſh.

This diviſion of the ſolids, we may obſerve, has probably taken its origin from the vulgar obſervation, that the body is made of bone and fleſh. And, as there are many different kinds of what are called ſoft or fleſhy parts, ſarcology is ſubdivided into,

1. Angeiology, or the doctrine of veſſels, by which is commonly underſtood *blood-veſſels*.

2. Adenology, of glands.

3. Neurology, of nerves.

4. Myology, of Muſcles, and,

5. Splanchnology, of the viſcera or bowels; and there is, beſides, that part which treats of the organs of ſenſe, and of the integuments.

This diviſion of the ſolids has been retained, rather for the ſake of explaining ſo many words, which are conſtantly uſed by Anatomiſts, than for its importance or accuracy. For, beſides many other objections that might be urged, there are in the body, three ſpecies of ſolids, viz. griſtle or cartilage, hair, and nails, which are of an intermediate nature between bone and fleſh; and therefore cannot ſo properly be brought into the oſteology, or ſarcology. The cartilages were claſſed with the bones, becauſe the greateſt number of them are appendages to bones; and for the like reaſon the hair, and the nails were claſſed with the integuments.

For the ſake likewiſe of explaining the meaning of words which often occur in older writers; I muſt juſt mention two diviſions of the ſolids, which are now in diſuſe.

1. They ſaid that the ſolids were either ſimilar, or diſſimilar. Of the ſimilar claſs, were bones, muſcles, &c. which were thought to be homogeneous, or made up of ſimilar parts.

The

The finger, the eye, &c. they called a diſſimilar part, becauſe compoſed of ingredients of very different natures: the eye being made up of membranes and humours. The moderns have dropt this diviſion of the ſolids, becauſe they know that a muſcle and a bone are each of them compounds of parts that are unlike.

The other obſolete diviſion of the ſolids, is that of 1. *ſanguinary*, and 2. *ſpermatic*. Such parts of our body as are plentifully ſupplied with blood-veſſels, and are thence red coloured, the muſcles for example, they called ſanguinary; and the expreſſion may be uſeful. The abſurdity is in the next part of the diviſion. Such parts of our body as have few or no red blood-veſſels, and are conſequently of a pale or white colour, tendons and cartilages, for example, they called ſpermatic.

The fluids of our body, for we have gone through the diviſion of the ſolids, may be divided into *three* kinds, which I ſhall call the *crude*, the *general* or *perfect*, and the *local* or *ſecreted fluid*.

1. By the *crude* fluid we mean, the chyle, and whatever is abſorbed at the ſurfaces of our body: in other words, what is recently taken into the body, and is not yet mixed with, or converted into blood.

2. The *general* or *perfect* fluid, is the blood itſelf; to wit, what is contained in the heart, arteries, and veins, and is going on, in the round of the circulation.

3. The *local* or *ſecreted*, are thoſe fluids, peculiar to particular parts of the body, which are ſtrained off from the blood, and yet are very different in their properties from the blood. They are commonly called ſecretions; and ſome are uſeful, others excrementitious.

Some authors have thought, that the ſolids only are the ſubjects of Anatomy, and that the fluids belong to the Phyſiology. This can only mean, that we cannot anatomize, becauſe we cannot cut or diſſect fluids; which is a diſpute about words. The ſolids and fluids are equally the objects of our ſenſes; and the matter and properties of both muſt be underſtood, before we can know even the ſtructure of our body.

In explaining the ſtructure of the parts, if a teacher would be of real ſervice, he muſt take care, not barely to deſcribe but to ſhew or demonſtrate every part. What the ſtudent acquires in this way, is ſolid knowledge, ariſing from the information of his own ſenſes: thence his ideas are clear, and make a laſting impreſſion upon his memory.

It is therefore neceſſary, for giving a complete courſe of Anatomy, to provide a number of *freſh ſubjects*, and to have a competent ſtock of *anatomical preparations*.

The dead body cannot be too freſh for diſſection; every hour that it is kept, it is loſing ſomething of its fitneſs for anatomical demonſtrations; the blood is tranſuding, and bringing all the parts nearer to one colour, which takes off the natural and diſtinct appearance; and putrefaction is advancing, which makes all the fleſhy parts tender and indiſtinct.

A ſubject is commonly of little uſe for demonſtration, after eight or ten days; though the circumſtances of habit, diſeaſe, and weather, will ſometimes make a great deal of difference. There is another reaſon for providing a number of dead bodies in ſucceſſion for one courſe: diſeaſes frequently alter the ſtate of the parts, ſo as to render them unfit for a demonſtration of their natural condition. Thence it is that we are under a neceſſity of having, ſometimes, ſeveral ſubjects to ſhew the bowels only.

For theſe reaſons we may conclude, that, except there be an avowed eſtabliſhment, for a plentiful ſupply of dead bodies, a truely uſeful, and complete courſe of Anatomy, can only be given in a great city. Whatever pity it may be, that ſo few profeſſors can have ſufficient ſupplies of dead bodies, we ſhould be very unreaſonable to blame thoſe who cannot have that advantage.

After this obſervation, which candour obliges me to make, I may be allowed to illuſtrate the doctrine by an example. In the courſe of my own ſtudies, I attended, as diligently as the generality of ſtudents do, one of the moſt reputable courſes of Anatomy in Europe: there I learned a good deal by my ears; but almoſt nothing by my eyes; and therefore, hardly any thing to the purpoſe. The defect was, that the profeſſor was obliged to demonſtrate all the parts of the body, except the bones, nerves, and veſſels, upon one dead body. There was a fœtus for the nerves and blood-veſſels; and the operations of ſurgery were explained, to very little purpoſe indeed, upon a dog. And, in the only courſe which I attended in London, which was by far the moſt reputable that was given here, the profeſſor uſed only two dead bodies in his courſe. The conſequence was, that at one of theſe places, all was harangue; very little was diſtinctly ſeen: in the other, the courſe was contracted into too ſmall a compaſs of time, and therefore ſeveral material parts of Anatomy were left out entirely.

Beſides dead bodies, we ſaid, that a profeſſor of Anatomy ſhould have a competent ſtock of *preparations*. Theſe are, parts of the body, artfully prepared by diſſection, or ſome other methods, and preſerved from putrefaction; ſo that they may be ready to be conſulted occaſionally.

Preparations ſerve two purpoſes chiefly, to wit, the preſervation of uncommon things, and the preſervation of ſuch things as required conſiderable labour to anatomize them, ſo as to ſhew their ſtructure diſtinctly. Of the firſt ſort are, the pregnant uterus, diſeaſes, parts of ſingular conformation, &c. Of the ſecond claſs are, preparations of the ear, the eye, and, in general, ſuch as ſhew the very fine and delicate parts of the body, which we call the minutiæ of Anatomy.

There are two different methods of preſerving animal parts; one is putting them into ſpirits, or ſuch liquors as prevent putrefaction; and then they are called *wet* preparations: the other is, by drying them; after which they are covered with a varniſh, which preſerves them from the injuries of the air, and from inſects. Theſe are called *dry* preparations.

Both kinds have advantages and diſadvantages: both are uſeful; but for the moſt part, the wet are preferable to the dry, becauſe they are more like nature. For, this is the defect of all preparations, that they loſe more or leſs of the natural appearance. The *wet* loſe their colour and tranſparency, and ſuffer even a change in their texture, from the reſtringency of the ſpirits, in which they are commonly ſuſpended. The *dry* loſe their complexion and conſiſtence; and, except the bones, moſt of them retain little of their natural ſize and ſhape. We may be aſſured, therefore, that it is wrong to take ideas of the parts of our body from preparations, when they can be ſeen diſtinctly in the freſh ſubject.

It is pity that preparations, which may be made ſo uſeful to Anatomy, ſhould in any way become detrimental to it. Yet it is certain, that in ſome courſes formerly given, ſtudents were rather amuſed with elegant preparations, than inſtructed in the eſſentials of ſolid Anatomy. We have known gentlemen of ſenſe, learning, and application, attend repeated courſes of that ſort; and after all confeſs, that upon opening a dead body, they could ſcarcely point out the different viſcera.

Might we not aſk any man of common ſenſe, what idea he can have of the nerves, for inſtance, if he has only ſeen them when they have been diſſected from the body, pined out and dryed upon a flat board? Or what his notions are, of that ſoft and ſpungy membrane which lines the noſe, if he has only ſeen it dryed upon the bones, full of vermilion veſſels, and covered with a ſhining varniſh?

Preparations ſhould not be uſed as ſubſtitutes for a body; but ſupplementally, to demonſtrate ſuch circumſtances clearly, as are intricate, confuſed, or inviſible in the freſh ſubject.

And, a demonſtrator who makes fine preparations, ſhould be very much upon his guard; otherwiſe, he will be apt to make an abuſe of preparations; he will, inſenſibly, contract a partiality to that in which he excels; the elegance of preparations is deluſive with ſtudents; and the more they are uſed, there will be leſs expence and trouble with freſh ſubjects.

Some Anatomiſts in our times, endeavoured to propagate and ſupport a very ill grounded opinion, viz. that in the ſtudy of Anatomy, preparations are almoſt always either uſeleſs, or hurtful: *uſeleſs*, they ſaid, becauſe the ſame things might be ſeen in a more natural ſtate; and *hurtful*, becauſe they give falſe ideas, inaſmuch as the natural condition of the part is changed. One of thoſe Anatomiſts would declaim upon injections ſtretching the blood-veſſels beyond their natural ſtate; and would plead, that Morgagni and Winſlow, hardly made any uſe of preparations. Another would harangue in the ſame ſtile, growing angry as he went on; and then would pretend to give a clear proof of his ſuppoſition, by ſhewing his pupils a dried, ſhrunk, and corrugated muſcle, as a preparation: which he would compare with a beautiful, freſh diſſected muſcle, in its natural ſtate and ſituation; and then appeal to their eyes for conviction. Here was ſome plauſibility of argument, drawn out of miſrepreſentation and deluſion. In fact, they were both out of humour with, and jealous of a third perſon, who was making uſe of preparations ſucceſsfully; and they had almoſt none: which laſt circumſtance alone, is enough to render it at leaſt, problematical, whether their conduct was not an illuſtration of the well known fable of the ſour grapes.

Both of thoſe gentlemen demonſtrated the bones, not in a freſh ſubject, and in their natural ſtate, with all their marrow and perioſteum, and tendons, and ligaments; but upon the artificial ſkeleton; that is, upon a preparation made by boiling and ſteeping, for the ſake of ſhewing more clearly the figure and features of bones. This preparation they uſed, becauſe it was very uſeful to ſtudents, and becauſe they could make it: but ſuch preparations as they had not, either becauſe they could not, or would not, take the pains to make them: they ſaid were *uſeleſs* or *hurtful*.

In a matter ſo evident and demonſtrable as the uſefulneſs of preparations, I not only can rely upon my own judgement, but I have the concurring opinion of all the ſenſible men who ever honoured me with their attendance. I never talked with one of them, who did not ſay that he received much improvement from what he ſaw exhibited in preparations. The appearances of diſeaſes, except now and then by accident, cannot be otherwiſe demonſtrated. What advantages then muſt a teacher have, were it only in this way, who by preparations can demonſtrate, in many hundred inſtances, the changes which are actually produced in the human body, by different diſeaſes.

In my ſituation, and at this time of life, it cannot be ſuppoſed that I ſhould take the trouble of giving lectures, if I did not conſider it as a duty that I owe to the public. Every man ſhould be held as a criminal who locks up his talent, whatever it may be. Mine, from nature was ſmall; but, by application and perſeverance, it has grown to be conſiderable. Hitherto it has been diligently employed for the advantage of others; and at the ſame time it has brought to myſelf, all the advantages which I have been ambitious of gaining. I have collected ſuch an anatomical apparatus, as was never brought together in any age or country. The ſpecimens of diſeaſes, eſpecially, are ineſtimable, and muſt render a courſe of lectures here, inſtructive and uſeful to any man, wherever he may have ſtudied, or whatever he may have ſeen. And, it may be preſumed, that, from knowing my own collection beſt, and from long experience in demonſtrating them, I am better qualified to make them uſeful to the world, than at this time, any other man can be. That conſideration has induced me to go on with my lectures: and, with that view, I am much more ambitious of a few ſtudents, who will attend with diligence, and with a ſincere deſire of improvement, than of a great number. The firſt will give me ſatisfaction and credit; the laſt would only bring in a larger ſum of money, which could be no equivalent for the vexation of ſeeing young men throwing away their time, when ſuch an opportunity is offered. For the future, money can be of no uſe to me, but for acquiring and communicating ſcience; which ſhall be my object, as far, and as long as I can purſue it.

In treating of the phyſiology, it is very difficult to ſay, what plan we ſhould follow; for, every method which has been yet propoſed, is attended with manifeſt inconvenience. The powers and operations of the machine, have ſuch a dependence on one another, ſuch connections and reciprocal influence, that they cannot well be underſtood, or explained, ſeparately. In this ſenſe, our body may be compared to a circular chain of powers, in which nothing is firſt, or laſt; nothing ſolitary or independent; ſo that wherever we begin, we find that there is ſomething preceding, which we ought to have known. If we begin with the brain and the nerves, for example, we ſhall find, that theſe cannot exiſt, even in idea, without the heart: and if we ſet out with the heart and vaſcular ſyſtem, we ſhall preſently be ſenſible, that the brain and nerves muſt be ſuppoſed: or, ſhould we take up the mouth, and follow the courſe of the aliment, we ſhould ſee that the very firſt organ which preſented itſelf, ſuppoſed the exiſtence both of the heart and brain. Wherefore, we ſhall incorporate the Phyſiology with the Anatomy; by attempting to explain the functions, when we have demonſtrated the organs.

The animal œconomy, indeed, is ſo extenſive a field, and takes ſo much light from philoſophy, and other arts, that in moſt univerſities, it has been found neceſſary to appoint two profeſſors, one for Anatomy, and the other for the Phyſiology. Undoubtedly the man who makes it his buſineſs, to inveſtigate every thing relating to the ſtructure of the human body, muſt be, *cæteris paribus*, the fitteſt perſon to explain its operations; and there cannot be a more proper occaſion, than when the parts are before us. And, yet, in ſome ſenſe, it is juſt the reverſe: for, every good Anatomiſt, who has a cool head, and keeps a guard over his imagination, knows, that many of the received hypotheſes in Phyſiology, are built on very looſe foundations, and liable to weighty objections; or, demonſtrably repugnant to what we already know of the ſtructure of our body. So that if the Anatomiſt is weak enough, to think that he can, or that he muſt explain, all the operations of the machine, he will certainly make partial diſſections, miſlead himſelf and others, and put a thouſand little arts in practice, to make the ſtructure correſpond with the imaginary uſe.

This unguarded proceeding, which has been too much the manner of teachers, though it may ſtrike weak, uncultivated minds with reverence, yet by men of finer intellects it is conſtrued, with great propriety, an indignity thrown out againſt the great Author of all things. It is indirectly paſſing off our own trifling ſchemes, and ſilly conceits, for his infinitely wiſe and extenſive views. It is not ſhewing us what we *are*, but what we *ſhould have been*; and in effect, therefore, is a piece of preſumption, which moves the indignation of all men, who look upon the works of nature with that humility and awe, which the dignity of the object demands.

I muſt therefore expect, that you will not hereafter be ſurprized, when you find me avowing great ignorance, in many of the moſt conſiderable queſtions relating to animal operations; ſuch as, ſenſation, motion, reſpiration, digeſtion, generation, &c. In my opinion all theſe ſubjects are much leſs underſtood, than moſt people think them. Our vanity deceives us, and perſuades us that we have got the whole, as ſoon as we have acquired a ſmattering of natural knowledge. Hence it is, that the different ſects of Phyſiologiſts, have endeavoured to explain animal functions upon ſuch different principles. Hence, for example, to account for digeſtion, ſome have made the ſtomach a mill; ſome would have it to be a ſtewing-pot; and ſome a wort-trough: yet all the while, one would have thought that it muſt have been very evident, that the ſtomach was neither a mill, nor a ſtewing-pot, nor a wort-trough, nor any thing but a ſtomach.

This ſpecies of philoſophy, has prevailed in many parts of Phyſiology; and makes up a great part of what has been commonly taught, as ſound and uſeful phyſiological learning. One thing, of peculiar properties and powers, has been explained by another, of different properties and powers, as abſurdly, as if colours had been explained by ſounds. Animal functions, generally ſpeaking, are of a peculiar nature; and like nothing which is to be found in the works of art, or wherever there is not animation and life: and, had Phyſiologiſts ſpent that time in making accurate obſervations upon animals themſelves, which has been thrown away upon mechanical and chemical viſions, by this time we might have underſtood animal principles and proceſſes, better than we now do.

The capital errors which have prevailed in different ages in the philoſophy of human bodies, are the following:

1. The palpable abſurdity of the older Anatomiſts, in deſcribing the ſtructure, and ſettling the functions of our body, by an examination made on brutes only—now fully exploded.

2. An abſurdity, prevalent with many moderns, that of finding out, and aſcertaining the chemical changes produced in our juices, by experiments made on dead matter out of the body.

3. The third, an error which has been very generally introduced into the writings of the beſt modern authors, is the drawing concluſions with regard to the *living* body, from experiments made upon the *dead* body. This, in many caſes, will be found to be fallacious; and on that account many doctrines and arguments of Kaw, Boerhaave, and others, will in a little time be exploded.

4. A ſimilar abſurdity, that of explaining the functions of our body, upon mechanical principles; arguing ſtill from *dead* to *living* matter.

To ſhew the ſtate of Phyſiology in this country, as late as the earlier part of my life, I may quote a paſſage from Dr. Friend's Hiſtory of Phyſic, vol. ii. page 398, which was the prevailing opinion of the times, ſupported by Dr. Mead, we might almoſt ſay by the college of phyſicians, and univerſities of Oxford and Cambridge. Speaking of the errors of modern Phyſiologiſts, he ſays, "It were to be wiſhed, that ſome able hand would ſet this matter in a true light, and illuſtrate it as far as may be, by the unalterable laws which nature has impreſſed upon all matter and motion: and indeed ſince the human body is nothing elſe but a fine contexture of ſolids and fluids, which obſerve the rules of *mechaniſm*, it is amazing to find that men ſhould think of any other principles than the *mechanical* to explain it by. Would any one go ſo much out of the way, as to account for the motions of a watch, from the precarious doctrine of *acid* and *alkali*?"

Inſtead of attempting to give any compleat ſyſtem of Phyſiology, we propoſe to incorporate a ſketch of it only, and upon the following plan.

1. To lay before you the ſtructure of the parts, and the known phænomena, as *data*.

2. Then to explain briefly, the moſt prevailing opinions or hypotheſes, with the principal arguments that have been brought, either to ſupport, or to overturn them.

3. In ſome inſtances to give our own opinion with caution and reſerve; but more generally to leave your judgements free, that enquiry and improvement may go on.

Leſt I ſhould be thought too ſhort in the phyſiological part, I would beg leave to obſerve, that, as far as it is yet known, or has been explained by Haller, and the beſt of the moderns, it may be eaſily acquired by a ſtudent, without a maſter, provided the ſtudent is acquainted with philoſophy and chemiſtry, and is an expert and ready Anatomiſt; for with theſe qualifications he can read any phyſiological book, and can underſtand it as faſt as he reads.

In this age, when ſo much has been printed upon the ſubject, there is almoſt as little inducement to attend lectures upon Phyſiology, as there would be for gentlemen to attend lectures upon government, or upon the hiſtory of England. Lectures upon ſubjects which are perfectly intelligible in print, cannot be of much uſe, except when given by ſome man of great abilities, who has laboured the ſubject, and who has made conſiderable improvements, either in matter or in arrangement.

In our branch, thoſe teachers who take but little pains to demonſtrate the parts of the body with preciſion and clearneſs, but ſtudy to captivate young minds with ingenious ſpeculation, will not leave a reputation that will outlive them half a century. When they ceaſe from their labours, their labours are buried along with them. There never was a man, perhaps, more followed and admired in Phyſiology, than Boerhaave. I remember the veneration he was held in; and now, in the ſpace of forty years, his Phyſiology is—it ſhocks me to think in what a light it appears.

Anatomical lectures being intended to ſerve as a ſolid foundation for two ſuch important arts as medicine and ſurgery, a teacher cannot take too much pains to render them uſeful: and if he be limited in time, it will require more particular care that the moſt eſſential things be well explained. And with that view he muſt be ſatisfied, with touching more lightly, ſuch things as are of leſs importance; and even to paſs over many things of little uſe, though perhaps curious; for in the ſtudy of nature, there is no end, if we give way to curioſity.

With this view of my ſituation in life, I always have ſtudied, and ſhall continue my endeavours to employ the time that is given up to anatomical ſtudies, as uſefully to the ſtudents as I can poſſibly make it. And therefore ſhall never aim at ſhewing what I know; but labour to ſhew, and deſcribe, as clearly as poſſible, what they ought to know. This plan rejects all declamation, all parade, all wrangling, all ſubtlety. To make a ſhew, and to appear learned and ingenious in natural knowledge, may flatter vanity: to know facts, to ſeparate them from ſuppoſitions, to range and connect them, to make them plain to ordinary capacities, and, above all, to point out the uſeful applications, is, in my opinion, much more laudable, and ſhall be the object of my ambition.

Allow us here to remove a falſe notion which has been circulated, among thoſe who have not had an opportunity of knowing better. They imagined, or, ſhould I rather ſay, they wiſhed the world to imagine, that the lectures given here, are upon the higher, the more curious and ſpeculative parts of Anatomy: and therefore above the comprehenſion of a beginner. This I poſitively deny; and would recommend it to ſtudents to judge of this queſtion, by the teſtimony of thoſe who muſt be the beſt judges; thoſe who have actually attended the courſe. And when they take advice upon the beſt plan for their ſtudies, let them remember, that few men can diveſt themſelves of prejudice, and that where prejudice has tainted the mind, a fair and candid opinion, or advice, muſt not be expected.

Some people thought even my former courſes too long. Why? They had been uſed to ſee a courſe of Anatomy finiſhed in thirty or forty lectures; and therefore imagined that, when it took up near four months, it muſt be unneceſſarily minute or prolix. But, let them reflect how imperfect ſuch courſes were; let them recollect, that they never ſaw the human brain and nerves, nor the human lymphatic ſyſtem, nor the human gravid uterus and its contents: let them recollect, that there were few parts of the body, which they underſtood thoroughly, after attending even repeated courſes of that kind; and then they will ſee that there was great room for improvement; and own that an opportunity of attending a more compleat courſe of anatomical lectures, muſt be a national advantage.

It has been objected likewiſe, that a lecture of two hours continuance, is too much: the attention muſt flag, and the memory cannot carry the ſubſtance of it away.

My anſwer to this is, that if there be uſeful buſineſs enough, for two hours a day through the proper ſeaſon, ſo much time nearly muſt be given up to each lecture; otherwiſe a number of material things muſt be omitted. And, there is enough of uſeful matter. Therefore, as I wiſh to adapt my labour to the attentive and diligent ſtudent, for the benefit of the public, the objection might paſs without farther notice. But, in fact, a diligent ſtudent ſeldom tires;

becauſe the novelty, or variety, or uſefulneſs, is continually fixing his attention; and he eaſily carries off the ſubſtance of the whole lecture, becauſe it is not hurried, but given with deliberation; and he is not ſimply hearing a lecture, but ſeeing a variety of intereſting objects, all in connection with one another; and when the objects are ſmall, or the ſubject obſcure, a good deal of time is taken up, with repetitions of the demonſtrations; which gives time, either to relax the attention, or to become more perfectly maſter of the ſubject.

So much for our ſubject, and for what is propoſed on our part. Allow me now, gentlemen, to ſay what is expected of you.

In many parts of the education of young men, the object is not very conſiderable; and will ſo far admit of idleneſs in the ſtudent, that his being ſo, will not eſſentially affect, either his own happineſs, or that of others. But in our profeſſion, the ſtudy of Anatomy is the moſt ſerious buſineſs of life; whether we conſider the duty, which ſtudents owe to themſelves, or to their friends and fellow-creatures. It is an abſolutely neceſſary foundation, upon which they are to build their practice, in curing diſeaſes; and upon that will depend their ſucceſs, and the figure which they are to make in the world.

If they will be idle, whether from not having acquired habits of application, or from eagerneſs to indulge themſelve in youthful pleaſures and diſſipation, they muſt lay their account with paying dearly for it. They muſt expect to be ſtruggling to raiſe themſelves in their profeſſion, when the opportunity is paſt, when it is too late: they muſt expect diſappointments, vexations, and rebuffs in the world: in one inſtance they will not be employed, becauſe their ignorance is known; in another, their want of qualification will be diſcovered by ſome blunder committed; a conſultation will be demanded, and they will be diſmiſſed with diſgrace. They will ſee that their character is ſettled, and that there is an end of all ambitious views. They will therefore find themſelves under the mortifying neceſſity of treading a low path in life, hardly able perhaps to get honeſt bread. And when they are under difficulties of that ſort, God only knows, what they may be tempted to do, and what they may be compelled to ſuffer.

But, if they will be diligent, they may expect credit and independence; they will endear themſelves to their friends and patients; they will be reſpected and courted by mankind; they will every day receive the grateful bleſſings of the ſick and lame, whom they have comforted or ſaved: and all this put together, will furniſh a man of the beſt regulated ambition, of humanity and feeling, with as much heart-felt ſatisfaction, as much real happineſs, as human nature can well receive in this world.

This, gentlemen, as far as experience of the world has enabled me to judge, is certainly the alternative that is before you: and I firmly believe, that it is in your power not only to *chuſe*, but to *have* which rank you pleaſe in the world. An opinion, the child of ſpleen and idleneſs, has been propagated, which has done infinite prejudice to ſcience, as well as to virtue. They would have us believe, that merit is neglected, and that ignorance and knavery triumph in this world. Now, in our profeſſion it ſeems inconteſtable, that the man of abilities and diligence always ſucceeds. Ability indeed is not the only requiſite; and a man may fail, who has nothing beſides to recommend him; or, who has ſome great diſqualification either of head or heart. But ſick people are ſo deſirous of life and health, that they always look out for ability: and, ſurely the man who is really able in his profeſſion, will have the beſt chance of being thought ſo. In my opinion, a young man cannot cultivate a more important truth than this, that merit is ſure of its reward in this world. I will flatter myſelf then that you will be diligent.

A beginner in this ſtudy ought by no means to be abſent from a ſingle lecture; becauſe he would thereby loſe, not only what was then demonſtrated, but the chain and connection of things; and therefore he would loſe a part of all that comes after. For the ſame reaſon, in the time of demonſtration, a beginner ſhould not allow his attention to be called off, even for a moment; leſt he ſhould loſe ſomething of importance. Upon this account, I think it injudicious in a beginner, to write notes in the time of a lecture. His buſineſs is, firſt of all, to get clear ideas of every thing. His eyes and ears are to be employed in that ſervice only. He is firſt to underſtand; let him remember as he can. And to ſay the truth, as it is a difficult taſk to remember what we do not underſtand; ſo, it is hardly poſſible to forget, what we clearly and fully comprehend. So that in getting diſtinct and clear ideas, eſpecially of the objects of our ſenſes, we are taking the beſt method of fixing them for ever in the memory.

In attending a ſecond courſe of lectures, a diligent ſtudent cannot employ himſelf to more advantage, than by taking *notes* in the time of lecture; and by writing it out fully, at his leiſure, in the evening and next morning, while it is yet freſh in his memory. His *notes* ſhould be very *ſhort*; otherwiſe the writing will take his attention too much from what is going on. For, even if he could, by *ſhort-hand*, take down every word that is ſaid, he would then be poſſeſſed only of a ſyſtem of Anatomy, at beſt full of tautology, and undigeſted; and beſides, he would not underſtand it, becauſe he had not had time to ſee and examine the objects: ſo that he would loſe the very thing that is aimed at by attending lectures; which is, to ſee and to comprehend things clearly. A man is no more an *Anatomiſt* for poſſeſſing a ſyſtem of Anatomy in manuſcript, than he is, for having a ſyſtem of Anatomy, or a hundred of the beſt books upon the ſubject, in print.

Students, eſpecially if they have not been in the habit of taking pains, will think that a diligent attendance alone, when they happen to be conſcious of having a good memory, will be enough; or, at leaſt, that it will be ſufficient to take ſhort notes, for greater ſecurity to the memory; and that compoſing and writing out a lecture at length, from ſuch *notes*, can anſwer no good end; that it muſt be ſuch drudgery, as no young man of good natural parts will ſubmit to. Yet it is what I would earneſtly recommend to all thoſe, who wiſh to make any figure in the profeſſion. And, to induce them to adopt this part of the plan recommended, I will let them know the great benefit they will reap from it.

Firſt, It fixes attention. For, when we know that we are to give a full and diſtinct account of what we ſee and hear, we find out the neceſſity of being very attentive.

Secondly, It fixes the ſubject indelibly on the memory; both by the cloſe attention which is given at the time of lecture, and by the ſtrong and clear conceptions, which are afterwards raiſed in the mind, and deeply impreſſed there, by being cloathed in our own words.

Thirdly, This is the only method of diſcovering, what we really do know, and what we do not; therefore, of diſcovering, what it is that we muſt get farther explained to us, or find out by our own induſtry. From experience I can ſay, that I have often come away from a lecture, thinking that I underſtood and retained, the ſubſtance of all that was ſaid or ſhewn: and yet, when I tried to put it on paper, which was the teſt, I found ſeveral things, which I underſtood ſo imperfectly, as not to be able to give an account of them.

Fourthly, This method of writing out lectures, gives poſſeſſion of a ſyſtem of Anatomy, intermixed with innumerable obſervations in phyſic, ſurgery, and midwifery, which may be conſulted through our lives, with much more advantage than any other book; becauſe, it brings to mind things that had been under the examination of our own ſenſes; and, in the order and connexion in which they were examined by us.

Surely theſe advantages are conſiderable enough to balance the labour that muſt be beſtowed; and they are perhaps all that are commonly either ſought after, or held up to our view. Yet there is a benefit ariſing from this method of ſtudy, more important, perhaps, than any which has been mentioned; and which, the intereſt I take, in what will ſo much affect your ſucceſs, in becoming reſpectable members of ſociety, obliges me to explain.

Good language, good compoſition, good *writing*, in every ſenſe, depends very much upon practice and habit. All good writers allow this. The beſt of them, generally ſpeaking confeſs, that, though all their valuable works coſt them a great deal of labour, yet that they found the labour of being an author became much lighter, after ſome practice.

Now, a ſtudent who writes out lectures, is, by that very practice, acquiring a facility of writing upon ſubjects in his profeſſion; of deſcribing all ſorts of natural and morbid appearances; of reaſoning upon theſe; of putting his thoughts into the moſt diſtinct order, and of expreſſing them in the moſt clear and proper language.

Beſides the honour which ariſes from acquiring the character of being a *good writer*, we obſerve, that in fact, every man in the profeſſion, who has been a conſiderable writer, has, in conſequence, become a conſiderable practitioner likewiſe; and the public has, almoſt always, at leaſt, done juſtice to reſpectable writers.

Many of you, perhaps, are now ſaying in your own minds, *we need not give ourſelves the trouble of writing out lectures with that view, becauſe we never mean to write books*. That is a very young way of thinking. At your age, no man can ſay what he will not do; becauſe he cannot know what he may hereafter

after wiſh to do. And therefore, while we have time and opportunity, let us endeavour to qualify ourſelves for making the beſt figure.

But, ſuppoſe any of you could be ſure that he ſhould never write a book in the way of his profeſſion; may not an occaſion offer itſelf, for publiſhing ſome intereſting caſe, or ſome improvement, that will be both honourable to himſelf, and beneficial to mankind? Can any man ſay, that he may not be malevolently attacked, injuriouſly miſrepreſented, perhaps ruined in his reputation as a man, or as a practitioner, if he does not write a juſtification of his conduct; which will require the talent of writing for the public?

In the laſt place, to ſhew you the advantage of writing well, and with facility, you muſt all know, that in every branch of the profeſſion, every practitioner muſt frequently be obliged to write letters upon caſes that come before him; he muſt ſtate them in writing, for the information of thoſe who are to be conſulted, and for the ſatisfaction of the relations. Now, as you may naturally imagine, I can aſſure you, that in fact, not only medical people, but the world in general, upon reading and conſidering a letter, are apt to meaſure, and ſettle the character of the man, by the character of the writer. Upon a thouſand occaſions I have been ſo ſenſible of what I have been recommending to you, that I could not help taking pains to perſuade you.

It has been a common practice with diligent ſtudents to read with care ſome good author, before he attends lectures; or to read, before hand, upon the ſubject of every lecture, to prepare himſelf, ſo that he may profit more by what he is to ſee and hear at the lecture. But, it is my opinion, that the ſtudent will profit moſt, in the ſtudy of Anatomy, who is the leaſt prepared by previous reading: he will come with no falſe, no confuſed ideas in his head, and therefore will have no rubbiſh to be cleared away; he will take his firſt ideas from nature herſelf; they will be more diſtinct than any thing the imagination can ſuggeſt, from bare verbal deſcription; and the firſt ideas ſtrike the mind with the moſt deep and laſting impreſſion. But, after a ſtudent has laid a proper foundation, by attending a compleat courſe of demonſtrations, the more he reads, of the beſt and lateſt writers eſpecially, the more he will improve himſelf.

I ſhould wiſh no ſtudent to engage in diſſections, till he had firſt attended a complete courſe of demonſtrations: otherwiſe, he will be ſo much at a loſs in his work, and receive ſo little inſtruction or ſatisfaction, that at beſt it will be ſo much time almoſt thrown away. It may even create diſguſt to a ſtudy, from which he ought to receive pleaſure and advantage. But, when once he is prepared for this part of his education, he cannot diſſect too much. Our lectures are not intended to make men Anatomiſts, but only to furniſh them with ſuch a knowledge of the ſubject, as will enable them to proſecute the ſtudy with ſucceſs; which can be done only by the labour of their own hands, by an examination with their own ſenſes, and by reflecting and exerciſing their own faculties upon their own obſervations.

In the earlier part of my life, I found ſuch advantage in putting my own hand to the knife, and in examining the different parts of the body, at my leiſure, and in my own way; that I was convinced, I might be of conſiderable ſervice to the public as a teacher, by opening a ſchool for practical Anatomy, which had not been done before in this great city; and the influence which it has actually had in this country is evident. There are now among us a hundred men, who with one winter's preparation for the office, might diſtinguiſh themſelves as profeſſors in any ſchool of Anatomy. The conditions of attending the diſſecting room, were made as eaſy to the ſtudents, as the circumſtances of this town would admit of: and I think it my duty to entreat you to diſſect as much as you can, while you have the opportunity.

Beſides attending lectures, and diſſecting dead bodies, there is here an opportunity of learning Anatomy to the beſt advantage, by attending the diſſecting-room. One winter's attention there, will certainly make a diligent ſtudent a good Anatomiſt. He will, in that time, ſee the preparatory diſſection for every lecture; which will make the lecture itſelf much more intelligible, and fix it deeper in the mind; he will ſee all the *principal parts* diſſected and demonſtrated over and over again; whatever he finds he does not clearly underſtand, there is ſuch a number of bodies diſſected in ſucceſſion, that he will, at any time, have an opportunity of attending to that particular object, and of getting it explained to him; he will ſee all the operations of ſurgery performed and explained, again and again; and he will ſee the practice of all the arts of making preparations. It is an important piece of education; and as it is not to be had at other places, I recommend it earneſtly; eſpecially to thoſe ſtudents who are to be in London, one winter only.

Some eminent Anatomiſts, have conducted themſelves in their practical methods, with ſuch cautious reſerve, or ſecrecy, as if their ambition had been to have it ſaid, when they were gone out of the world, that no man was left, who was fit to take their place. It would be ſtill more reputable for a teacher, to have it ſaid, that he had raiſed ſuch a ſpirit for the art, and taught ſo openly all he knew, that he left behind him, at leaſt a ſcore of better Anatomiſts than himſelf.

I muſt likewiſe earneſtly recommend it to every ſtudent, to make and collect as many anatomical preparations as he can. He ſhould not only have a ſkeleton for his own uſe, but he ſhould have ſeveral ſkulls, divided by different ſections, to ſhew all the interiors of that part. He ſhould have a preparation of all the blood-veſſels in their natural ſituation, and two preparations of the trunk of a child, the one preſenting a fore-view, the other a back-view of the whole viſcera; and as many preparations of the organs of ſenſe and generation, and of the particular viſcera as he can eaſily procure. The advantage which he will receive from ſuch preparations, will not be confined to the few years which are commonly given up to the ſtudy of Anatomy; but in the courſe of his buſineſs afterwards, he will have occaſion to conſult them in many caſes, where an exact recollection or knowledge of the preciſe ſituation of parts may be very neceſſary to determine the nature of a diſeaſe, and to direct the cure. I recommend this to ſtudents, with earneſtneſs, becauſe I ſo frequently find the advantage of it myſelf. When conſulted about any uncommon caſe, I frequently go to my preparations, and receive much information and ſatisfaction, by comparing the diſeaſed parts with the ſound.

In the ſtudy of Anatomy, there are ſo many occaſions of examining minute objects, that every ſtudent ſhould provide himſelf with a magnifying-glaſs, and practiſe with it upon objects in bottles, as well as upon thoſe that are uncovered; that he may acquire a dexterity, and readineſs, in bringing the object into a good light, and proper diſtance.

In our demonſtrations here, large and conſpicuous objects will be ſhewn to the whole company at once. You may obſerve that this theatre is particularly well conſtructed, both for ſeeing and hearing; a ſtrong ſky-light is thrown upon the table, and the glaſs being ground, that is, made rough upon one ſurface, the glare of ſun-ſhine is not admitted: the circular ſeats are brought as near the table, as eaſe in ſitting would admit of; and, as they go back, they are a good deal raiſed, which is a conſiderable advantage both in ſeeing and hearing; you may obſerve another circumſtance in this theatre, which has not been ſufficiently conſidered in buildings of that kind, viz. the table, where the object is placed, and by which the demonſtrator ſtands, is not in the centre of the circular room, but about half way between the centre and the circumference; thence the ſeats make ſmaller ſegments of larger circles, in proportion as they are farther removed; and the ſpectators, in proportion as they are at a greater diſtance, are more directly before the object and ſpeaker, which, both in hearing and ſeeing, makes ſome compenſation for the greater diſtance.

When ſmaller parts of the body are to be demonſtrated here, or ſuch as are obſcure from their ſituation, they will be ſhewn at two or three places ſucceſſively, that every one preſent may get a diſtinct view of them.

Objects that are ſtill more minute, and moſt of the *preparations*, muſt be ſent round the company; that every ſtudent may examine them in his own hand. To prevent confuſion, you will pleaſe to obſerve, that, in the firſt ſeat, the preparations are to go round from right to left; in the ſecond bench, from left to right; and ſo alternately, to the fartheſt ſeat of all. To prevent loſs of time, when you give a preparation to your neighbour, be ſo good as to point out the *part*, or *circumſtance* which is then to be examined; as I ſhall do, when it is firſt handed round: and every ſtudent will recollect, that he is to confine his examination to that part only; for, were he to ſpeculate upon other things in the preparation, he would not only wander from the ſubject in hand, which would reflect upon his underſtanding, but he would detain the preparation too long from the reſt of the company.

We expect that the preparations will not be injured, or deſtroyed, by your examination of them; and therefore, that they will only be looked at: no experiment is to be made, by preſſing or bending, to try their ſtrength or texture. With all poſſible care they are conſtantly wearing out, or growing the worſe for uſe. Many of them are the reſult of patient labour, and not eaſily reſtored; many of them are ſuch rarities, as are not recoverable, when loſt, by any pains that can be taken.

Among a number of ſtudents, there will always be ſome young men, who will attend, without any deſire of getting inſtruction, but to go through a preſcribed form of education. From ſuch nothing is expected, but that they will not diſturb the reſt of the company: that point muſt be inſiſted upon.

In a country where liberty diſpoſes the people to licentiouſneſs and outrage, and where Anatomiſts are not legally ſupplied with dead bodies, particular care ſhould be taken, to avoid given offence to the populace, or to the prejudices of our neighbours. Therefore it is to be hoped, that you will be upon your guard; and, out of doors, ſpeak with caution of what may be paſſing here, eſpecially with reſpect to dead bodies.

Theſe conſiderations render it neceſſary to ſhut our doors againſt ſtrangers, or ſuch people, as might chuſe to viſit us, from an idle, or even malevolent curioſity. But, if a ſtudent ſhould wiſh to introduce a friend to any particular lecture, it will give us pleaſure to oblige him; provided he will only take the trouble of preſenting his friend, juſt before the lecture begins. The lectures, however, upon the organs of generation, and gravid uterus, are to be excepted. No viſitor can be introduced when we are upon theſe ſubjects. The reaſons for ſuch exceptions muſt be obvious.

The hours will be from *two* to *four* o'clock every day, except Sunday, till the whole be finiſhed.

The conditions, as uſual, are hung up in a frame, for the inſpection of thoſe who do not know them.

Our next meeting ſhall be opened with the plan, or order of the whole courſe; and then we ſhall explain the nature of the blood.

END OF THE LECTURES.

PAPERS

RELATING TO

Dr. HUNTER's INTENDED PLAN,

FOR

Eſtabliſhing a MUSEUM in LONDON,

FOR THE IMPROVEMENT OF

ANATOMY, SURGERY, AND PHYSIC.

COPY of a MEMORIAL given to the EARL OF BUTE, firſt Lord of the Treaſury, a ſhort Time before he reſigned that Office, by DR. HUNTER.

SCARCE any ſcience or art requires the protection of a prince more than Anatomy, as well on account of its great uſe to mankind, as becauſe it is perſecuted by the prejudices, both natural and religious, of the multitude in all nations.

Its uſefulneſs indeed is generally allowed; and yet the degree and extent of its benefit is known only to a few. It is the only ſolid foundation of medicine. It is to the phyſician and ſurgeon, what geometry is to the aſtronomer. It diſcovers and aſcertains truth; overturns ſuperſtition and vulgar error; and checks the enthuſiaſm of theoriſts and of ects in medicine, to whom perhaps more of the human ſpecies have fallen a ſacrifice, than to the ſword itſelf, or peſtilence.

It is likewiſe, or at leaſt might be made of conſiderable uſe in ſculpture and painting.

A great ſchool, provided with all the means of improvement, is much more neceſſary in this, than in any other branch of knowledge, becauſe it is leſs capable of being ſtudied or improved in private. The difficulties, dangers, and expences, that muſt be incurred, in procuring dead bodies, and in providing proper places for diſſection, and the ſecrecy with which the buſineſs muſt be conducted, are ſuch diſcouragements to the ſtudy of Anatomy, that few men, even of the profeſſion, ever attempt the practical part: and, without practice, there can be no great ſhare of real and uſeful knowledge.

There can be no effectual ſchool for this art, in any other place than a large city; becauſe it requires a great number and a regular ſucceſſion of bodies, which cannot be procured in ſmaller towns.

Of the very few who profeſs or teach this art in any part of Great-Britain, London excepted, there are none who can be ſupplied with dead bodies for the private uſe of ſtudents. They can with difficulty procure only ſo many as are abſolutely neceſſary for the public demonſtrations of the principal and well known parts of the body. Hence it is that the ſtudents never learn the practical part, and therefore never become Anatomiſts: and the teachers themſelves can hardly make improvements, becauſe they cannot have ſubjects for private experiments and enquiries.

Anatomy was not upon a much better footing even in London, till the year 1746. From that time, not only more compleat courſes have been regularly given in public, but ſtudents have always had opportunities of exerciſing themſelves in the practical part, which, before that period, they could not do, in any part of Great-Britain. This has raiſed and diffuſed a ſpirit for the art, which (if we may be allowed to ſpeak the truth) will be felt, for ſome time, by the ſick, and the lame, in all parts of the Britiſh empire. And this has been owing to one, who, with very moderate abilities, happened to have an uncommon love for the ſtudy; and who therefore took uncommon pains, both to inform himſelf and to inform others. Hence it is that London has for ſome years been one of the beſt ſchools for Anatomy; and hence the London teacher is become poſſeſt of a collection both of preparations and books, inferior perhaps to none in Europe.

He wiſhes to teach Anatomy to the beſt advantage of his pupils, while he enjoys life and health; and to perpetuate the ſpirit for Anatomy, in this country, as far as human inſtitutions can ſecure perpetuity.

But without ſome public and permanent foundation he foreſees that Anatomy, and every thing that depends upon it, muſt ſink again to its former ſtate. It will be taught only by young men, as an introduction to buſineſs; the name of lecturer, in news-papers, and in private converſation, never failing to give a man ſome degree of credit. But ſuch young teachers will generally be very indifferently qualified when they begin; and when they have acquired ſome ability, from experience, that is, when they are juſt become fit for teaching, they will generally leave it off. They will always find their labour better rewarded (in the vulgar ſenſe of reward) by following the practice of phyſic or ſurgery, than by reading lectures. So it has been, in fact; and thence, though we have had many profeſſors, or teachers, in this great town, we have not had one Winſlow, Morgagni, or Albinus: nor can it be expected, that a Briton ſhould be able to do, in a few years, what is done by the labour of a long life in other countries: eſpecially too, when we conſider that there is no proviſion made by our government for ſupplying him with ſubjects, and that in other countries this article is amply provided for.

Above two years ago, Dr. Hunter found himſelf under a neceſſity of giving up his lectures. The fatigue of reading two or three hours every day for ſix months, during the winter ſeaſon, when the town is full and buſy, and at ſome diſtance from his dwelling-houſe; this, with his other engagements, which conſume a great deal of time, and frequently deprive him of natural reſt; all this grew to be inſupportable, and forced him to give notice, that he ſhould read but one courſe more. After that courſe, he was importuned ſo urgently by his pupils, that he granted them another ſhort one upon the principal parts; but he read it gratis, thinking, thereby to put an end to all further ſolicitation. When he took his leave of the ſtudents, he received ſuch flattering marks of their gratitude, and ſuch preſſing calls to continue his lectures, for the good of mankind, that, after very deliberate reflexion, he thought it his duty to do ſo, even if he ſhould be obliged to drop a part of his more lucrative employments. He conceived that a man may do infinitely more good to the public, by teaching his art, than by practiſing it. The good effects of the latter muſt center in the advantage of the few individuals that may be under his cure as patients; but the influence of a teacher extends itſelf to the whole nation, and deſcends to poſterity.

With theſe intentions towards mankind, and with a deſire of gaining what the beſt men have ever eſteemed the higheſt reward, he begs that the Earl of Bute, who knows well the force of ſuch motives, would recommend him to the King's favour, that he may the better execute his plan of giving lectures during his life, and perpetuate a ſucceſſion of public teachers of Anatomy, under the royal protection.

What he at preſent wiſhes is this; to be allowed a proper piece of ground, that he may forthwith lay out ſix, or even ſeven thouſand pounds, in erecting a building fit for the purpoſe, under any condition that may be agreeable to the King.

Or, if his Majeſty's known love of the polite arts, and his benevolence to mankind, ſhould ſuggeſt to him a deſign of eſtabliſhing an academy on a more extenſive plan, Dr. Hunter would be ſtill more happy, if what he now propoſes for the advancement of one ſcience, might be made a ſmall part of an inſtitution, worthy of the Britiſh nation, and a Britiſh King.

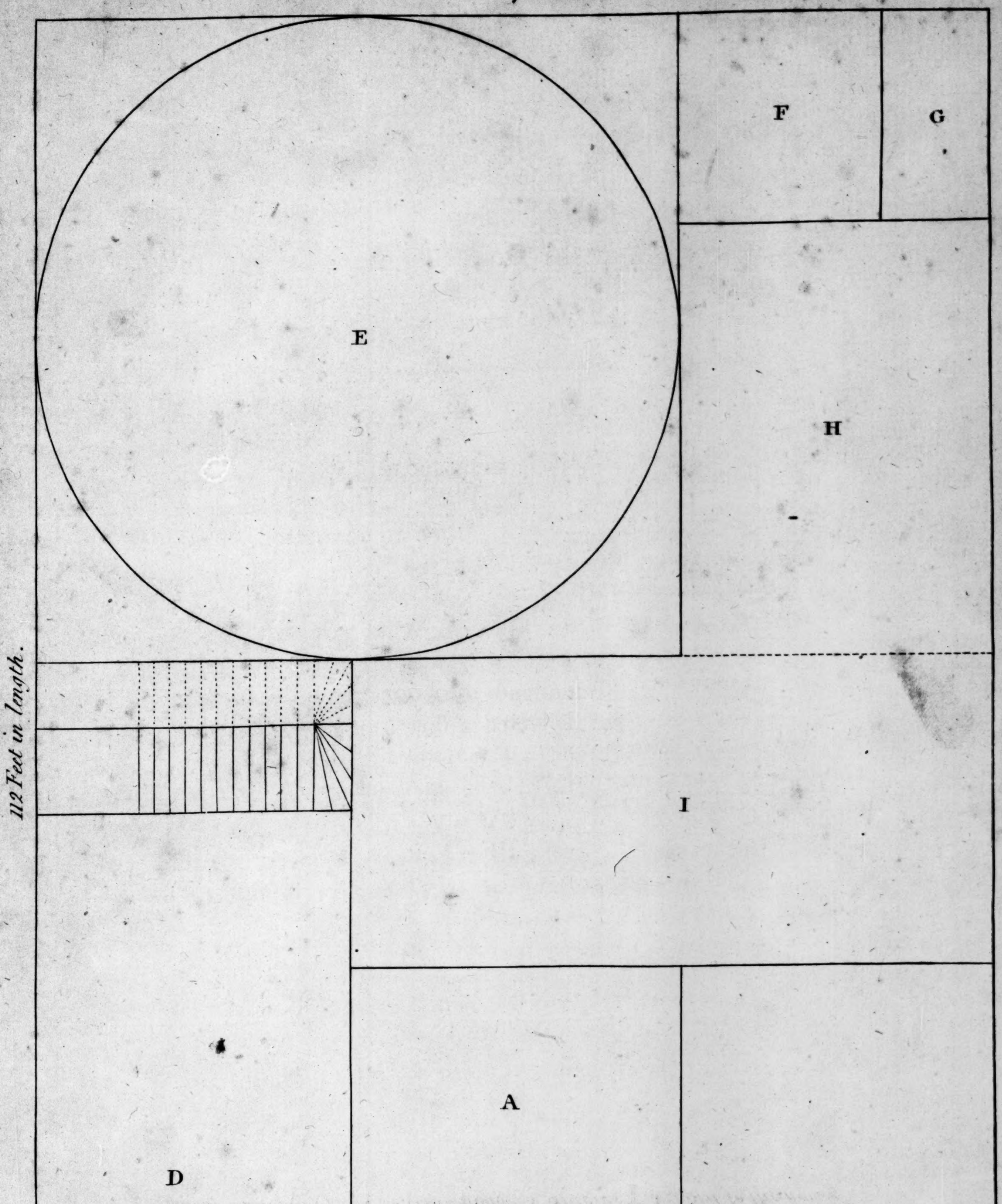
PLAN of a THEATRE, MUSEUM, &c. propoſed by Dr. HUNTER: With an Account of ſeveral Parcels of Land in Weſtminſter, in his Majeſty's Diſpoſal, one of which may probably be thought proper for carrying the DOCTOR's Scheme into Execution.

IT is required to find a convenient piece of ground within his Majeſty's lands in Weſtminſter, large enough for a Dwelling-houſe, a Theatre, and Muſeum, for carrying Dr. Hunter's plan into execution; but there being no petition or memorial from the Doctor, nor any reference to the Surveyor General; verbal directions were given by Mr. Dyſon, to the Deputy Surveyor, referring him to the Doctor for the quantity of ground and ſituation requiſite thereto; accordingly the Doctor delivered a ſketch of his deſign, whereby it appears, that a piece of ground, of about thirty rod, or of the dimenſions of one hundred and twelve feet in front, by ſeventy-one feet in depth, is wanted for this uſe.

BAILIWICK OF ST. JAMES.

With regard to his Majeſty's demiſeable land, within the bailiwick of St. James now laid out in ſtreets, and built

Dr. Hunter's Sketch of a Theatre, Museum, &c.



A.B.C *The house of 3 rooms.*
D. *The Museum & Library.*
E. *The Theatre.*
F.G. *Coach house & Stables.*
H *Burying Ground or Theatre yard.*
I. *Yard to the house.*

10 OC 65

and improved at the tenant's expence, by virtue of leaſes under the ſeal of the Court of Exchequer. Theſe are not to be come at without purchaſing in the terms in being; even old buildings in Duke-Street, Bury-Street, King-Street, or other parts of this extenſive bailywick, will fetch eight or ten years purchaſe, and in Pall-Mall, Piccadilly, or St. James's-Street, near as much more. And when bought in at thoſe prices, muſt be pulled down, before they can be of any ſervice in the plan propoſed.

SCOTLAND-YARD.

The ground in both Scotland-Yards, are ſo encumbered with the leaſes of the Earl of Northumberland, Mr. Ripley, Mr. Edwyn, Mr. Gwyn, Mr. Gibbons, Mr. Killegrew, General Cholmondeley, Mr. Wallace, and others, beſides the parts neceſſary for his Majeſty's ſervice, as the guard-rooms, the office and accommodation of his Majeſty's works, the wood-yard, and other offices, that it does not ſeem poſſible to find one piece of ground there, large enough to anſwer the intended purpoſe.

ST. JAMES's PARK.

St. James's Park, and the Green Park, are ſtrait enough for the air and accommodations of their Majeſties palaces, unleſs a piece of ground of one hundred and twelve feet by ſeventy-one feet, might be ſpared in that corner of the park, joining to Queen's-Square, by Petty France; which is the moſt remote, and leaſt frequented of any other part of the parks. But it is imagined, the Lords Commiſſioners of his Majeſty's Treaſury, will, with great reaſon, object to any diminution of them.

SAVOY.

In the Savoy is a large front of old houſes on the ſouth ſide of the Strand, conſiſting of about thirty houſes, ſeven of theſe in the broad part of the Strand, may be taken down, which will give a ſpace of one hundred and twenty feet by ſeventy feet, and will fully anſwer the intended uſe. They are now, and for many years paſt have been, held by the inhabitants, without any title but poſſeſſion. This part may be ſoon cleared of the preſent incroachers, by order of the Court of Exchequer, with the conſent of the Chancellor of the Duchy, the old buildings pulled down, and the Doctor's plan carried into execution, without the leaſt prejudice to the garriſon there, the priſon, the infirmary, the French, or Pruſſian churches, or any of the public buildings whatſoever, ſtanding within the Savoy. And the reſidue of theſe old houſes, may be let to ſuch tenants as the Lords of the Treaſury ſhall think fit.

MEWS, UPPER END.

At the upper end of the Mews, joining to the houſes in Orange-Street, there may be taken one hundred and forty feet in length, and eighty feet in depth; this piece of ground at preſent, is part in ruins, on other part are ſtables belonging to his Royal Highneſs the Duke of York, and alſo ſome buildings and ground in poſſeſſion of Captain William Hamilton; and it is very probable, other accommodations might be found for his Royal Highneſs, and Mr. Hamilton, in other parts of the Mews, by advice of the Maſter of the Horſe, under whoſe juriſdiction the premiſes are.

MEWS, LOWER END.

At the lower end of the Mews, fronting the main ſtreet at Charing-Croſs, is a range of ground of about one hundred and twelve feet in front, and a ſuitable depth for the uſe propoſed; it is now uſed, part as a ſutler's and porter's lodge. Other part, as coach-houſes for the carriages of the King, Queen, and Duke of York; other part is uſed by the Serjeant Farrier, and the reſt is in the occupation of the ſervants belonging to Colonel Carpenter, and Captain Hamilton. Theſe buildings, where ſome of the carriages of the Royal Family are put up, are mean old ſheds, very unfit for the uſe they are put to; and if other and better accommodations might be found for theſe uſes, with the advice of the Maſter of the horſe, to whoſe juriſdiction the whole Mews belongs: then this parcel might be applied to Doctor Hunter's propoſal, being well ſituate for that purpoſe. It is neceſſary, the Lords of the Treaſury ſhould be informed, that a plan was formerly made for rebuilding the Mews; which was no farther carried into execution, than building the royal ſtable in the middle of the Mews. If this deſign ſtill exiſts, this plan of Dr. Hunter's would break in upon it.

HYDE-PARK.

Juſt within the gate leading into Hyde-Park, between the ſaid Gate and the Water Conduit, may be ſpared a piece of ground, lying between the Park Road to Kenſington, and the ſouth eaſt wall of the Park, large enough for Doctor Hunter's plan. The way to it may be along the common road to Kenſington, juſt beyond the Turnpike Gate, and the ſituation will be airy, if placed over againſt the end of the road leading to Weſtminſter. The houſes of the Lords Holderneſs, Cholmondeley, and March, &c. are all remote two or three hundred yards from this piece of ground.

Surveyor-General's Office,
January 16, 1764.

This was given to the KING by Mr. HAWKINS.

DR. HUNTER has given in a memorial to Lord Bute, which his Lordſhip recommended to Mr. Grenville, ſetting forth the uſefulneſs of Anatomy; and that it is an art which cannot be cultivated in private; and therefore requires a public ſchool with every advantage, and has a peculiar claim to the protection of the Crown; that London is the only place for ſuch a ſchool, becauſe a ſufficient number of dead bodies cannot be procured in any other part of Great-Britain; that he had improved and extended the ſtudy of Anatomy, and ſupported it for many years; that he foreſaw it would be in danger of ſinking again if there was not ſome fixed foundation; that therefore, though he had once taken a reſolution of giving up his lectures, he not only had reſumed them again, but was now come to a reſolution of continuing them for his life, and of perpetuating uſeful lectures of Anatomy in this place.

This he is determined to do in the beſt manner he is able. His heartineſs in the cauſe, his very large collection of preparations and books, his experience, and induſtry, can hardly fail of ſucceſs: and he thinks, for many reaſons, this national, and diſintereſted ſcheme, may be executed with much greater advantage in his life-time, than after his death.

He is ready to lay out ſix or even ſeven thouſand pounds immediately, but cannot expend more, (at leaſt now) without riſking his peace of mind.

He flatters himſelf if the King knew of a ſcheme ſo uſeful, and ſo perfectly diſintereſted, that he would honour it with his name and protection, and give a convenient piece of ground for the building.

There are now two old houſes in Scotland-Yard, which the proprietor has begun to repair for the twenty-five remaining years of his leaſe. He aſks one thouſand pounds for them. Theſe, with a row of little houſes belonging to the ſcullery, would anſwer the purpoſe for ſituation and ſpace: and if it ſhould be wanted, the next houſe (which is old) may be purchaſed for ſix hundred pounds.

If any delay be made, that piece of ground will be loſt; at leaſt, the price will riſe daily, becauſe the repairs are now begun.

To the Right Hon. GEORGE GRENVILLE.

S I R,

I MOST ſincerely repent having given you ſo much trouble about a piece of ground to build upon. The ſcheme I propoſed was for the public: I offered to lay out ſeven thouſand pounds from my own pocket, and intended giving my muſeum and labour: but, what I did not expect, I have been obliged to give up a good deal of time, (which is more precious to me than any thing) in waiting, and hitherto to no purpoſe. I had a meſſage from the Surveyor, above five months ago, and when I waited upon him, I told him, that it was unexpected to me; that from the delay, and apparent neglect, for ſome months, I had conſidered the propoſal as in effect refuſed; but ſaid, I was ſtill ready to execute my part. I then expected ſomething was to be done immediately, but heard nothing more for about two months, and then Mr. Wheatly ſent for me. I complained to him of the delay, but ſaid I was ſtill ready to do my part, if you would pleaſe to do yours, and inſiſted if any thing was to be done, that it might be done immediately. He talked of a *few days* being neceſſary; and I told him, that a *few days* would make no difference at all, but that my preſent ſituation would not admit of waiting *months*. Yeſterday, nearly three months were elapſed from that time, without my hearing any thing of the matter, and I thought it at laſt time to wait at the Treaſury, and to finiſh the buſineſs one way or other. Accordingly, I found that nothing was done: and therefore nothing remains for me, but to beg pardon for giving ſo much trouble, and to beg that I may no longer be conſidered as bound in honour to fulfil my part of the propoſal. However, as this is the laſt time that I will give you any trouble about this affair, to cut off all ſuſpicion of my having made a ſham propoſal, I will take the liberty to ſay, that if any order be given for the ground, *before the firſt day of February next*, I ſhall be ready to go on with the plan: otherwiſe, I am ſo circumſtanced that *I never can, and never will.*

I am, &c.

W. H.

FINIS.

10 OC 65